ORDER NO. VRD9404M111

Service Manual

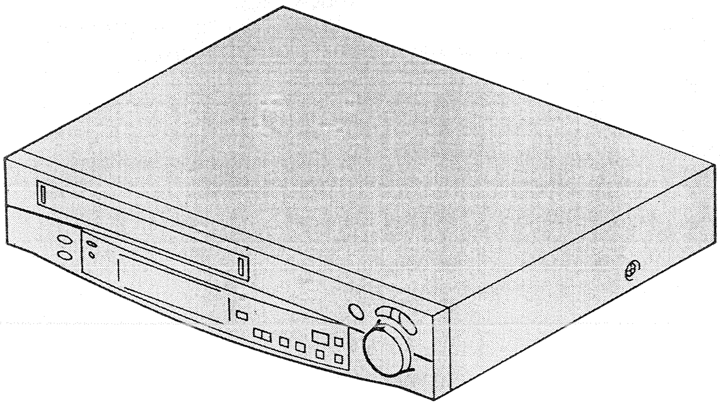
Video Cassette Recorder

Simplified

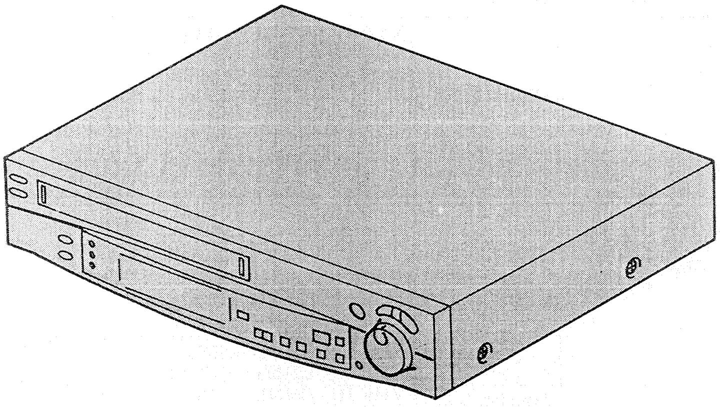
Panasonic VHS PAL HQ

NV-SD35 EG EO
NV-SD45 EG EO

K-MECHANISM



NV-SD35EG/EO



NV-SD45EG/EO

Panasonic

SPECIFICATIONS (NV-SD35EG/EO)

ITEM	SPECIFICATION	
POWER	SOURCE: 220~240V AC 50/60Hz	
	CONSUMPTION: 25 watts	
RECORDING SYSTEM	2 rotary heads, helical scanning system	
	PAL	
TV TUNER SYSTEM	GERMANY	VHF I: CHE2~CHE4 VHF III: CHS4~CHE12 VHF H: CHS11~CHS20 (PAL/SECAM B) UHF: CH21~CH69 (PAL/SECAM G) 75Ω terminated
	ITALY	VHF I: CHA~CHH VHF III: CHS4~CHH2 VHF H: CHS11~CHS41 (PAL/SECAM B) UHF: CH21~CH69 (PAL/SECAM G) 75Ω terminated
	OTHER COUNTRIES	VHF I: CHE2~CHS3 VHF III: CHM1~CHE12 VHF H: CHU1~CHS41 (PAL/SECAM B) UHF: CH21~CH69 (PAL/SECAM G) 75Ω terminated
RF OUT SYSTEM	UHF: CH36±4 (PAL/SECAM G) 70^{+2}_{-3}dBμ, 75Ω terminated	

ITEM	SPECIFICATION
VIDEO	HEADS: 3 rotary heads 1 pair for recording and playback (L-R heads) 1 pc. for trick play (L′ heads)
	INPUT: EURO AV Connector (21 pin) 1.0Vp-p, 75Ω unbalanced
	OUTPUT: EURO AV Connector (21 pin) 1.0Vp-p, 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal Audio)
	INPUT: EURO AV Connector (21 pin) More than −6dBV (500mV), 10kΩ
	OUTPUT: EURO AV Connector (21 pin) −6dBV (500mV), Less than 1kΩ
TAPE SPEED	23.39mm/s Record/Playback Time: 4 hours with 240min. type tape FF/REW Time: 2.5min. with 180min. type tape
DIMENSIONS	380(W)×89(H)×356(D) mm
WEIGHT	4.6kg
STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. AC Mains Lead 1 pc. Infra-res Remote Controller

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

SPECIFICATIONS (NV-SD45EG/EO)

ITEM	SPECIFICATION	
POWER	SOURCE: 220~240V AC 50/60Hz	
	CONSUMPTION: 25 watts	
RECORDING SYSTEM	2 rotary heads, helical scanning system	
	PAL	
TV TUNER SYSTEM	GERMANY	VHF I: CHE2~CHE4 VHF III: CHS4~CHE12 VHF H: CHS11~CHS20 (PAL/SECAM B) UHF: CH21~CH69 (PAL/SECAM G) 75Ω terminated
	ITALY	VHF I: CHA~CHH VHF III: CHS4~CHH2 VHF H: CHS11~CHS41 (PAL/SECAM B) UHF: CH21~CH69 (PAL/SECAM G) 75Ω terminated
	OTHER COUNTRIES	VHF I: CHE2~CHS3 VHF III: CHM1~CHE12 VHF H: CHU1~CHS41 (PAL/SECAM B) UHF: CH21~CH69 (PAL/SECAM G) 75Ω terminated
RF OUT SYSTEM	UHF: CH 36±4 (PAL/SECAM G) 70^{+2}_{-3}dBμ, 75Ω terminated	
VIDEO	HEADS: 4 rotary heads 1 pair for recording and playback (L-R heads) 1 pair for trick play (L′-R′ heads)	

ITEM	SPECIFICATION
VIDEO	INPUT: EURO AV Connector (21 pin) 1.0Vp-p, 75Ω unbalanced VIDEO IN Connector (Phono type) 1.0Vp-p, 75Ω unbalanced
	OUTPUT: EURO AV Connector (21 pin) 1.0Vp-p, 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal Audio)
	INPUT: EURO AV Connector (21 pin) More than −6dBV (500mV), 10kΩ AUDIO IN Connector (Phone type) More than −10dBV (316mV), 50kΩ MICROPHONE JACK −70dBV
	OUTPUT: EURO AV Connector (21 pin) −6dBV (500mV), Less than 1kΩ
TAPE SPEED	SP: 23.39mm/s (PAL) 33.35mm/s (NTSC) LP: 11.695mm/s (PAL) 11.12mm/s (NTSC) Record/Playback Time: SP: 4 hours with 240min. type tape LP: 8 hours with 240min. type tape FF/REW Time: 2.5min. with 180min. type tape
DIMENSIONS	380(W)×89(H)×357(D) mm
WEIGHT	4.6kg
STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. AC Mains Lead 1 pc. Infra-res Remote Controller

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

1. COMPARISON CHART

The following charts show the difference between the basic model NV-SD30EG/EO, NV-SD40EG/EO and the new model NV-SD35EG/EO, NV-SD45EG/EO. The first chart shows the mechanical replacement parts of NV-SD35EG/EO, NV-SD45EG/EO which are different from the ones of NV-SD30EG/EO, NV-SD40EG/EO. The second chart shows the electrical replacement parts of NV-SD35EG/EO, NV-SD45EG/EO which are different from the ones of NV-SD30EG/EO, NV-SD40EG/EO. The electrical parts on the circuit boards are listed on the parts list in the last section.

Note: Please place the order of Operating Instructions by refering the launguage you need, indicated at Description in the Mechanical Replacement Parts List.

Note: IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characterlistics for safety. When replacing any of these components, use only the same type.

MECHANICAL REPLACEMENT PARTS FOR NV-SD35EG (A)=ADDED, (C)=CHANGED, (D)=DELETED

REF. NO.	NV-SD30EG	NV-SD35EG	PCS	PARTS NAME & DESCRIPTIONS	REMARKS
65 (1)	—	2SB941PSW	0→1	POWER TRANSISTOR	(A)
70 (1)	VEG1024	VEG1139	1	CYLINDER UNIT	(C)
71 (1)	VEH0599	VEH0657	1	UPPER CYLINDER UNIT	(C)
B9 (1)	VHD0760	XQN2+AJ4	2	SCREW	(C)
103 (2)	VMA8765	VMA8930	1	ROTOR STOPPER	(C)
109 (2)	VDG0861	VDG0956	1	SUPPLY REEL GEAR	(C)
110 (2)	VDG0862	VDG0957	1	TAKE UP REEL GEAR	(C)
128 (2)	VXA4797	VXA5138	1	SS BRAKE BASE UNIT	(C)
140 (2)	VXL2229	VXL2366	1	IDLER ARM UNIT	(C)
141 (2)	VXL2230	VXL2372	1	DIRECT LEVER UNIT	(C)
201 (3)	VYP5255	VYP5503	1	FRONT PANEL UNIT (※)	(C)
224 (3)	VMZ1854	VMZ2221	1	POWER BARRIR (※)	(C)
226 (3)	VGQ1377	—	1→0	TR. HOLDER	(D)
227 (3)	VMZ1224	—	1→0	INSULATION SHEET	(D)
B207 (3)	XTV3+8G	—	2→0	SCREW	(D)
300 (4)	VQT5198	VQT5629	1	OPERATING INSTRUCTIONS (※) (GERMAN)	<!> (C)
300 (4)	—	VQT5628	0→1	OPERATING INSTRUCTIONS (※) (ENGLISH)	<!> (A)
300 (4)	—	VQT5630	0→1	OPERATING INSTRUCTIONS (※) (FRENCH/ITALIAN)	<!> (A)
301 (4)	VQC2119	—	1→0	PROGRAMME SHEET	(D)
305 (4)	VEQ1473	VEQ1559	1	REMOTE CONTROLLER (※)	(C)
306 (4)	VGP3344	—	1→0	DOOR PANEL	(D)
307 (4)	VKF1977	—	1→0	BATTERY COVER	(D)
308 (4)	VGQ3046	—	1→0	CAP	(D)
319 (4)	—	VPN3773	0→1	PAD	(A)
321 (4)	VPN3542	VPN3600	1	CUSHION (L) (※)	(C)
322 (4)	VPN3543	VPN3599	1	CUSHION (R) (※)	(C)
323 (4)	VPG6855	VPG7313	1	PACKING (※)	(C)

REMARK: (※) SUPPLIED FROM MBV

ELECTRICAL REPLACEMENT PARTS FOR NV-SD35EG (A)=ADDED, (C)=CHANGED, (D)=DELETED

REF. NO.	NV-SD30EG	NV-SD35EG	PCS	PARTS NAME & DESCRIPTIONS	REMARKS
	VEP03971AA	VEP03971AQ	1	MAIN C.B.A. (※)	(C)
P1506	VJS1736T	VJS3481	1	CONNECTOR (FEMALE)	(C)
P2502	VJP1230T	VJP3483	1	CONNECTOR (MALE)	(C)
P2502	VJP1736T	VJS3482	1	CONNECTOR (FEMALE)	(C)
PP3001	VJP3044G009W	—	1→0	CONNECTOR (MALE)	(D)
PP3002	VJP3044G012W	—	1→0	CONNECTOR (MALE)	(D)
PP3003	VJP3044G006W	—	1→0	CONNECTOR (MALE)	(D)
PP6707	VJP3043G010W	—	1→0	CONNECTOR (MALE)	(D)
	VEE8286	VEE8564	1	WIRE CABLE (P2502 – POWER TR.)	(C)
	VEP07538H	VEP07575E	1	VPS PACK C.B.A. (※)	(C)
	VEP03A59A	VEP03A59P	1	LUMINANCE & CHROMINANCE PACK C.B.A. (※)	(C)
IC302	TDA9715	TDA9715H/A	1	IC (※)	(C)
PS301	VJS3044G009W	—	1→0	CONNECTOR (FEMALE)	(D)
PS302	VJS3044G012W	—	1→0	CONNECTOR (FEMALE)	(D)
PS303	VJS3044G006W	—	1→0	CONNECTOR (FEMALE)	(D)
PS301-3	—	VJR0800	0→1	PACK PIN (※)	(A)
	VEP07701D	VEP07701AH	1	TIMER C.B.A. (※)	(C)
IC7501	MN187164VTSV	MN187164VZBE	1	IC (※)	(C)
	VEP00S86A	—	1→0	POWER TRANSISTOR C.B.A.	(D)

REMARK: (※) SUPPLIED FROM MBV

MECHANICAL REPLACEMENT PARTS FOR NV-SD35EO

(A)=ADDED, (C)=CHANGED, (D)=DELETED

REF. NO.	NV-SD30EO (MBV)	NV-SD35EO	PCS	PARTS NAME & DESCRIPTIONS	REMARKS
65 (1)	—	2SB941PSW	0→1	POWER TRANSISTOR	(A)
70 (1)	VEG1024	VEG1139	1	CYLINDER UNIT	(C)
71 (1)	VEH0599	VEH0657	1	UPPER CYLINDER UNIT	(C)
B9 (1)	VHD0760	XQN2+AJ4	2	SCREW	(C)
103 (2)	VMA8765	VMA8930	1	ROTOR STOPPER	(C)
109 (2)	VDG0861	VDG0956	1	SUPPLY REEL GEAR	(C)
110 (2)	VDG0862	VDG0957	1	TAKE UP REEL GEAR	(C)
128 (2)	VXA4797	VXA5138	1	SS BRAKE BASE UNIT	(C)
140 (2)	VXL2229	VXL2366	1	IDLER ARM UNIT	(C)
141 (2)	VXL2230	VXL2372	1	DIRECT LEVER UNIT	(C)
201 (3)	VYP5255	VYP5503	1	FRONT PANEL UNIT (※)	(C)
224 (3)	VMZ1854	VMZ2221	1	POWER BARRIR (※)	(C)
226 (3)	VGQ1377	—	1→0	TR. HOLDER	(D)
227 (3)	VMZ1224	—	1→0	INSULATION SHEET	(D)
B207 (3)	XTV3+8G	—	2→0	SCREW	(D)
300 (4)	VQT5199	—	1→0	OPERATING INSTRUCTIONS (ENGLISH/FRENCH/ITALIAN)	⟨!⟩ (D)
300 (4)	VQT5201	—	1→0	OPERATING INSTRUCTIONS (DUTCH/DENISH/GREEK)	⟨!⟩ (D)
300 (4)	—	VQT5628	0→1	OPERATING INSTRUCTIONS (※) (ENGLISH)	⟨!⟩ (A)
300 (4)	—	VQT5629	0→1	OPERATING INSTRUCTIONS (※) (GERMAN)	⟨!⟩ (A)
300 (4)	—	VQT5630	0→1	OPERATING INSTRUCTIONS (※) (FRENCH/ITALIAN)	⟨!⟩ (A)
300 (4)	—	VQT5631	0→1	OPERATING INSTRUCTIONS (※) (SPANISH)	⟨!⟩ (A)
300 (4)	—	VQT5632	0→1	OPERATING INSTRUCTIONS (※) (DUTCH)	⟨!⟩ (A)
300 (4)	—	VQT5633	0→1	OPERATING INSTRUCTIONS (※) (SWEDISH/DANISH/FINNISH)	⟨!⟩ (A)
300 (4)	—	VQT5634	0→1	OPERATING INSTRUCTIONS (※) (PORTUGUESE/GREEK)	⟨!⟩ (A)
301 (4)	VQC2119	—	1→0	PROGRAMME SHEET	(D)
305 (4)	VEQ1473	VEQ1559	1	REMOTE CONTROLLER (※)	(C)
306 (4)	VGP3344	—	1→0	DOOR PANEL	(D)
307 (4)	VKF1977	—	1→0	BATTERY COVER	(D)
308 (4)	VGQ3046	—	1→0	CAP	(D)
319 (4)	VPN3639	VPN3773	1	PAD	(C)
321 (4)	VPN3542	VPN3600	1	CUSHION (L) (※)	(C)
322 (4)	VPN3543	VPN3599	1	CUSHION (R) (※)	(C)
323 (4)	VPG6856	VPG7314	1	PACKING (※)	(C)

REMARK: (※) SUPPLIED FROM MBV

ELECTRICAL REPLACEMENT PARTS FOR NV-SD35EO (A)=ADDED, (C)=CHANGED, (D)=DELETED

REF. NO.	NV-SD30EO (MBV)	NV-SD35EO	PCS	PARTS NAME & DESCRIPTIONS	REMARKS
	VEP03971N	VEP03971AS	1	MAIN C.B.A. (※)	(C)
P1506	VJS1736T	VJS3481	1	CONNECTOR (FEMALE)	(C)
P2502	VJP1230T	VJP3483	1	CONNECTOR (MALE)	(C)
P2502	VJP1736T	VJS3482	1	CONNECTOR (FEMALE)	(C)
PP3001	VJP3044G009W	—	1→0	CONNECTOR (MALE)	(D)
PP3002	VJP3044G012W	—	1→0	CONNECTOR (MALE)	(D)
PP3003	VJP3044G006W	—	1→0	CONNECTOR (MALE)	(D)
	VEE8286	VEE8564	1	WIRE CABLE (P2502–POWER TR.)	(C)
	VEP03A59C	VEP03A59R	1	LUMINANCE & CHROMINANCE PACK C.B.A. (※)	(C)
IC302	TDA9715	TDA9715H/A	1	IC (※)	(C)
PS301	VJS3044G009W	—	1→0	CONNECTOR (FEMALE)	(D)
PS302	VJS3044G012W	—	1→0	CONNECTOR (FEMALE)	(D)
PS303	VJS3044G006W	—	1→0	CONNECTOR (FEMALE)	(D)
PS301-3	—	VJR0800	0→1	PACK PIN (※)	(A)
	VEP07701G	VEP07701AK	1	TIMER C.B.A. (※)	(C)
IC7501	MN187164VTSV	MN187164VZBE	1	IC (※)	(C)
	VEP00S86A	—	1→0	POWER TRANSISTOR C.B.A.	(D)

REMARK: (※) SUPPLIED FROM MBV

MECHANICAL REPLACEMENT PARTS FOR NV-SD45EG (A)=ADDED, (C)=CHANGED, (D)=DELETED

REF. NO.	NV-SD40EG	NV-SD45EG	PCS	PARTS NAME & DESCRIPTIONS	REMARKS
65 (1)	—	2SB941PSW	0→1	POWER TRANSISTOR	(A)
70 (1)	VEG1023	VEG1138	1	CYLINDER UNIT	(C)
71 (1)	VEH0598	VEH0656	1	UPPER CYLINDER UNIT	(C)
B9 (1)	VHD0760	XQN2+AJ4	2	SCREW	(C)
103 (2)	VMA8765	VMA8930	1	ROTOR STOPPER	(C)
109 (2)	VDG0861	VDG0956	1	SUPPLY REEL GEAR	(C)
110 (2)	VDG0862	VDG0957	1	TAKE UP REEL GEAR	(C)
128 (2)	VXA4797	VXA5138	1	SS BRAKE BASE UNIT	(C)
140 (2)	VXL2229	VXL2366	1	IDLER ARM UNIT	(C)
141 (2)	VXL2230	VXL2372	1	DIRECT LEVER UNIT	(C)
201 (3)	VYP5253	VYP5506	1	FRONT PANEL UNIT (※)	(C)
224 (3)	VMZ1854	VMZ2221	1	POWER BARRIR (※)	(C)
226 (3)	VGQ1377	—	1→0	TR. HOLDER	(D)
227 (3)	VMZ1224	—	1→0	INSULATION SHEET	(D)
231 (3)	VMZ2123	—	1→0	BARRIER	(D)
B207 (3)	XTV3+8G	—	2→0	SCREW	(D)
300 (4)	VQT5213	VQT5619	1	OPERATING INSTRUCTIONS (※) (GERMAN)	⟨!⟩ (C)
300 (4)	—	VQT5618	0→1	OPERATING INSTRUCTIONS (※) (ENGLISH)	⟨!⟩ (A)
300 (4)	—	VQT5620	0→1	OPERATING INSTRUCTIONS (※) (FRENCH/ITALIAN)	⟨!⟩ (A)
301 (4)	VQC2119	—	1→0	PROGRAMME SHEET	(D)
305 (4)	VEQ1473	VEQ1559	1	REMOTE CONTROLLER (※)	(C)
306 (4)	VGP3344	—	1→0	DOOR PANEL	(D)
307 (4)	VKF1977	—	1→0	BATTERY COVER	(D)
308 (4)	VGQ3046	—	1→0	CAP	(D)
319 (4)	—	VPN3773	0→1	PAD	(A)
321 (4)	VPN3542	VPN3600	1	CUSHION (L) (※)	(C)
322 (4)	VPN3543	VPN3599	1	CUSHION (R) (※)	(C)
323 (4)	VPG6861	VPG7327	1	PACKING (※)	(C)

REMARK: (※) SUPPLIED FROM MBV

ELECTRICAL REPLACEMENT PARTS FOR NV-SD45EG (A)=ADDED, (C)=CHANGED, (D)=DELETED

REF. NO.	NV-SD40EG	NV-SD45EG	PCS	PARTS NAME & DESCRIPTIONS	REMARKS
	VEP03971Y	VEP03971AR	1	MAIN C.B.A. (※)	(C)
P1506	VJS1736T	VJS3481	1	CONNECTOR (FEMALE)	(C)
P2502	VJP1230T	VJP3483	1	CONNECTOR (MALE)	(C)
P2502	VJP1736T	VJS3482	1	CONNECTOR (FEMALE)	(C)
PP3001	VJP3044G009W	——	1→0	CONNECTOR (MALE)	(D)
PP3002	VJP3044G012W	——	1→0	CONNECTOR (MALE)	(D)
PP3003	VJP3044G006W	——	1→0	CONNECTOR (MALE)	(D)
PP6707	VJP3043G010W	——	1→0	CONNECTOR (MALE)	(D)
	VEE8286	VEE8564	1	WIRE CABLE (P2502 - POWER TR.)	(C)
	VEP07538H	VEP07575E	1	VPS PACK C.B.A. (※)	(C)
	VEP03A59D	VEP03A59S	1	LUMINANCE & CHROMINANCE PACK C.B.A. (※)	(C)
IC302	TDA9715	TDA9715H/A	1	IC (※)	(C)
PS301	VJS3044G009W	——	1→0	CONNECTOR (FEMALE)	(D)
PS302	VJS3044G012W	——	1→0	CONNECTOR (FEMALE)	(D)
PS303	VJS3044G006W	——	1→0	CONNECTOR (FEMALE)	(D)
PS301-3	——	VJR0800	0→1	PACK PIN (※)	(A)
	VEP07699D	VEP07699V	1	TIMER C.B.A. (※)	(C)
IC7501	MN187164VTSV	MN187164VZBE	1	IC (※)	(C)
	VEP00S86A	——	1→0	POWER TRANSISTOR C.B.A.	(D)

※ REMARK: (※) SUPPLIED FROM MBV

MECHANICAL REPLACEMENT PARTS FOR NV-SD45EO (A)=ADDED, (C)=CHANGED, (D)=DELETED

REF. NO.	NV-SD40EO (MBV)	NV-SD45EO	PCS	PARTS NAME & DESCRIPTIONS	REMARKS
65 (1)	—	2SB941PSW	0→1	POWER TRANSISTOR	(A)
70 (1)	VEG1023	VEG1138	1	CYLINDER UNIT	(C)
71 (1)	VEH0598	VEH0656	1	UPPER CYLINDER UNIT	(C)
B9 (1)	VHD0760	XQN2+AJ4	2	SCREW	(C)
103 (2)	VMA8765	VMA8930	1	ROTOR STOPPER	(C)
109 (2)	VDG0861	VDG0956	1	SUPPLY REEL GEAR	(C)
110 (2)	VDG0862	VDG0957	1	TAKE UP REEL GEAR	(C)
128 (2)	VXA4797	VXA5138	1	SS BRAKE BASE UNIT	(C)
140 (2)	VXL2229	VXL2366	1	IDLER ARM UNIT	(C)
141 (2)	VXL2230	VXL2372	1	DIRECT LEVER UNIT	(C)
201 (3)	VYP5253	VYP5506	1	FRONT PANEL UNIT (※)	(C)
224 (3)	VMZ1854	VMZ2221	1	POWER BARRIR (※)	(C)
226 (3)	VGQ1377	—	1→0	TR. HOLDER	(D)
227 (3)	VMZ1224	—	1→0	INSULATION SHEET	(D)
231 (3)	VMZ2123	—	1→0	BARRIER	(D)
B207 (3)	XTV3+8G	—	2→0	SCREW	(D)
300 (4)	VQT5214	—	1→0	OPERATING INSTRUCTIONS (ENGLISH/FRENCH/ITALIAN)	⟨!⟩ (D)
300 (4)	VQT5216	—	1→0	OPERATING INSTRUCTIONS (DUTCH/DENISH/GREEK)	⟨!⟩ (D)
300 (4)	—	VQT5618	0→1	OPERATING INSTRUCTIONS (※) (ENGLISH)	⟨!⟩ (A)
300 (4)	—	VQT5619	0→1	OPERATING INSTRUCTIONS (※) (GERMAN)	⟨!⟩ (A)
300 (4)	—	VQT5620	0→1	OPERATING INSTRUCTIONS (※) (FRENCH/ITALIAN)	⟨!⟩ (A)
300 (4)	—	VQT5621	0→1	OPERATING INSTRUCTIONS (※) (SPANISH)	⟨!⟩ (A)
300 (4)	—	VQT5622	0→1	OPERATING INSTRUCTIONS (※) (DUTCH)	⟨!⟩ (A)
300 (4)	—	VQT5623	0→1	OPERATING INSTRUCTIONS (※) (SWEDISH/DANISH/FINNISH)	⟨!⟩ (A)
300 (4)	—	VQT5624	0→1	OPERATING INSTRUCTIONS (※) (PORTUGUESE/GREEK)	⟨!⟩ (A)
301 (4)	VQC2119	—	1→0	PROGRAMME SHEET	(D)
305 (4)	VEQ1473	VEQ1559	1	REMOTE CONTROLLER (※)	(C)
306 (4)	VGP3344	—	1→0	DOOR PANEL	(D)
307 (4)	VKF1977	—	1→0	BATTERY COVER	(D)
308 (4)	VGQ3046	—	1→0	CAP	(D)
319 (4)	VPN3639	VPN3773	1	PAD	(C)
321 (4)	VPN3542	VPN3600	1	CUSHION (L) (※)	(C)
322 (4)	VPN3543	VPN3599	1	CUSHION (R) (※)	(C)
323 (4)	VPG6862	VPG7328	1	PACKING (※)	(C)

REMARK: (※) SUPPLIED FROM MBV

ELECTRICAL REPLACEMENT PARTS FOR NV-SD45EO (A)=ADDED, (C)=CHANGED, (D)=DELETED

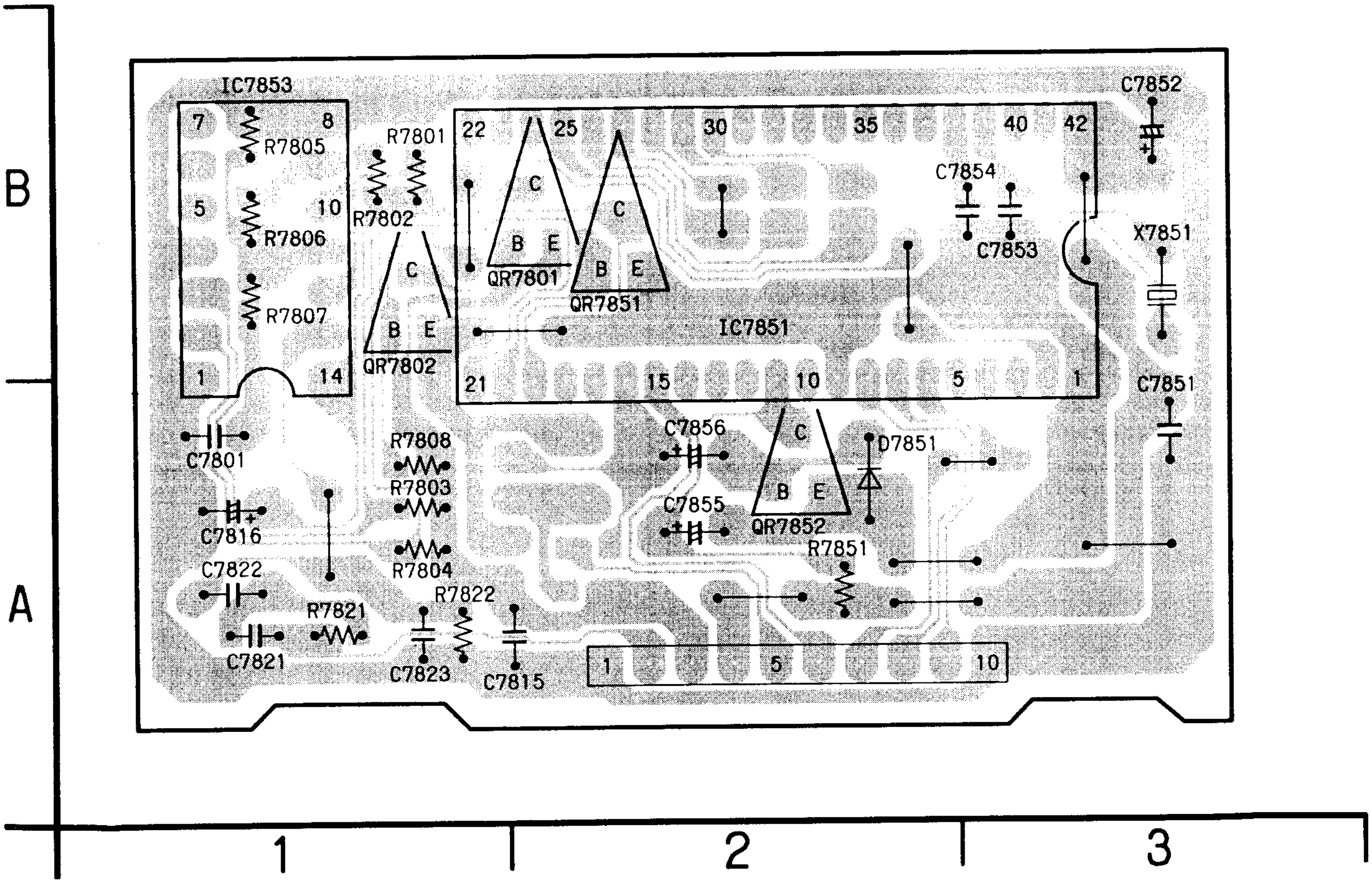
REF. NO.	NV-SD40EO (MBV)	NV-SD45EO	PCS	PARTS NAME & DESCRIPTIONS	REMARKS
	VEP03971M	VEP03971AU	1	MAIN C.B.A. (※)	(C)
P1506	VJS1736T	VJS3481	1	CONNECTOR (FEMALE)	(C)
P2502	VJP1230T	VJP3483	1	CONNECTOR (MALE)	(C)
P2502	VJP1736T	VJS3482	1	CONNECTOR (FEMALE)	(C)
PP3001	VJP3044G009W	—	1→0	CONNECTOR (MALE)	(D)
PP3002	VJP3044G012W	—	1→0	CONNECTOR (MALE)	(D)
PP3003	VJP3044G006W	—	1→0	CONNECTOR (MALE)	(D)
	VEE8286	VEE8564	1	WIRE CABLE (P2502−POWER TR.)	(C)
	VEP03A59F	VEP03A59U	1	LUMINANCE & CHROMINANCE PACK C.B.A. (※)	(C)
IC302	TDA9715	TDA9715H/A	1	IC (※)	(C)
PS301	VJS3044G009W	—	1→0	CONNECTOR (FEMALE)	(D)
PS302	VJS3044G012W	—	1→0	CONNECTOR (FEMALE)	(D)
PS303	VJS3044G006W	—	1→0	CONNECTOR (FEMALE)	(D)
PS301-3	—	VJR0800	0→1	PACK PIN (※)	(A)
	VEP07699G	VEP07699Y	1	TIMER C.B.A. (※)	(C)
IC7501	MN187164VTSV	MN187164VZBE	1	IC (※)	(C)
	VEP00S86A	—	1→0	POWER TRANSISTOR C.B.A.	(D)

REMARK: (※) SUPPLIED FROM MBV

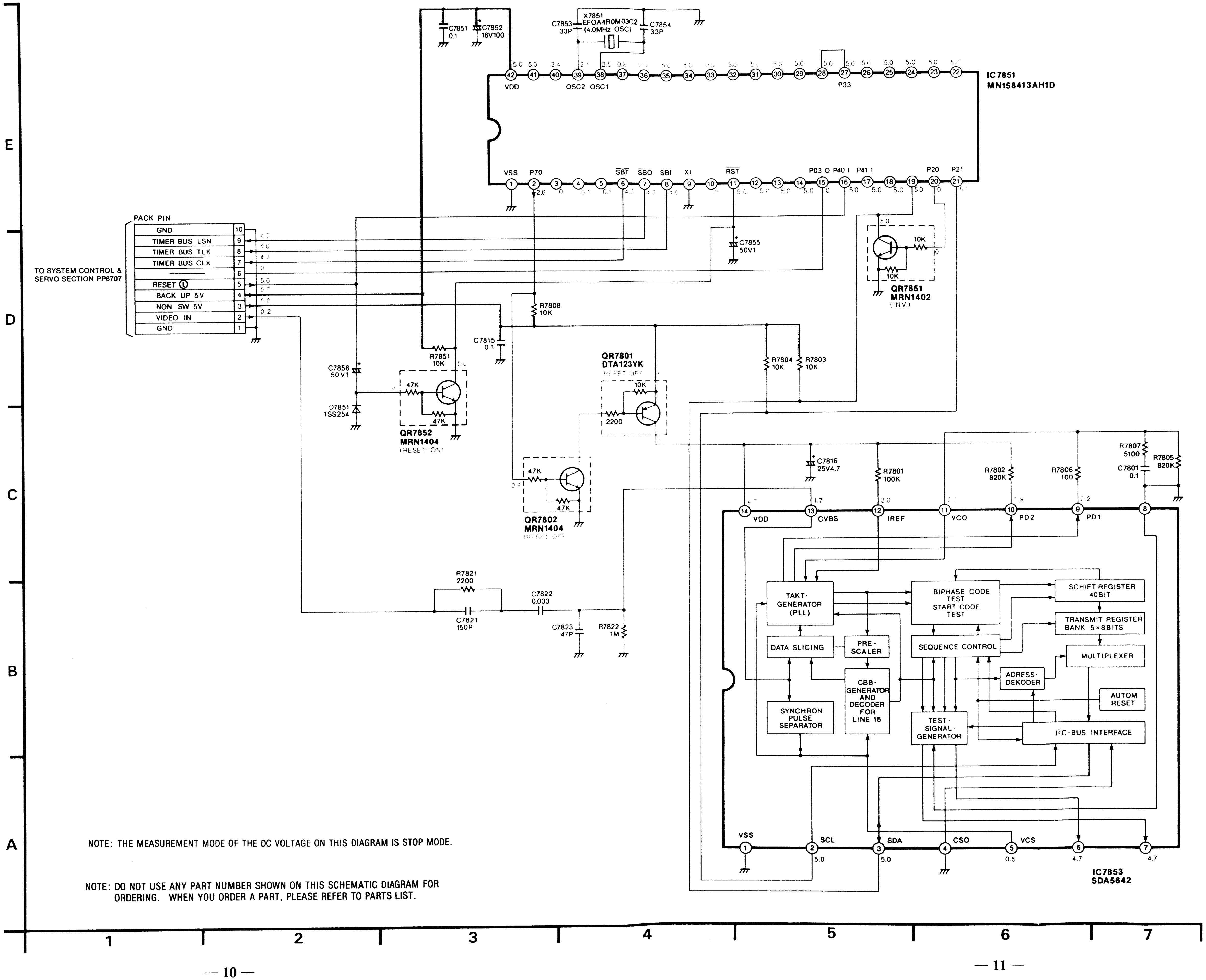
2. VPS PACK C.B.A. (VEP07575E: NV-SD35EG, SD45EG)

VPS PACK C.B.A.	
Transistor & Resistor	
QR7801	B-2
QR7802	B-1
QR7851	B-2
QR7852	A-2
Integrated Circuit	
IC7851	B-2
IC7853	B-1

ADDRESS INFORMATION


B
A
1
2
3
IC7853
7
8
5
10
1
14
R7805
R7806
R7807
R7801
R7802
C
B
E
QR7802
22
25
30
35
40
42
21
15
10
5
1
QR7801
QR7851
IC7851
C7854
C7853
C7852
X7851
C7851
C7801
C7816
C7822
C7821
R7821
R7808
R7803
R7804
R7822
C7823
C7815
C7856
C7855
QR7852
D7851
R7851
1
5
10

3. VPS PACK SCHEMATIC DIAGRAM (NV-SD35EG, SD45EG)

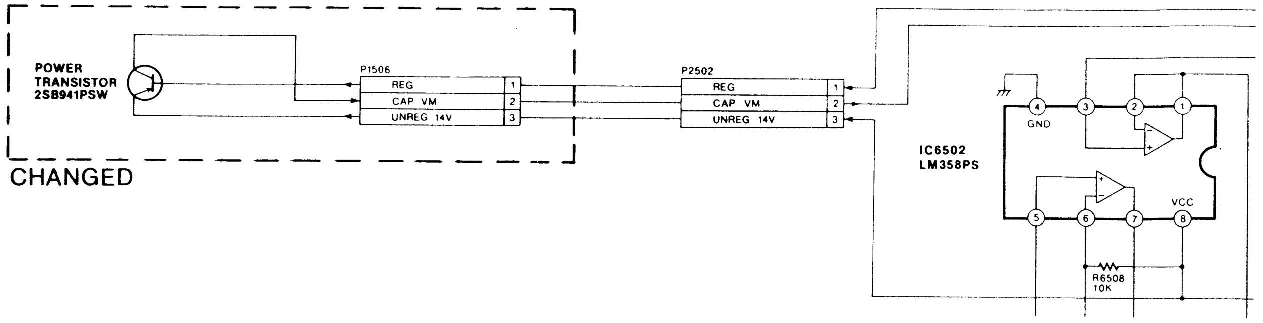


E
D
C
B
A
1
2
3
4
5
6
7
IC7851
MN158413AH1D
VDD
OSC2 OSC1
P33
VSS P70
SBT SBO SBI XI
RST
P03 O P40 I P41 I
P20 P21
X7851
EFOA4R0M03C2
(4.0MHz OSC)
C7853
33P
C7854
33P
C7851
0.1
C7852
16V100
PACK PIN
GND
TIMER BUS LSN
TIMER BUS TLK
TIMER BUS CLK
RESET Ⓛ
BACK UP 5V
NON SW 5V
VIDEO IN
GND
TO SYSTEM CONTROL &
SERVO SECTION PP6707
C7855
50V1
QR7851
MRN1402
(INV.)
10K
10K
R7808
10K
C7815
0.1
R7851
10K
C7856
50V1
D7851
1SS254
47K
47K
QR7852
MRN1404
(RESET ON)
QR7801
DTA123YK
(RESET OFF)
10K
2200
R7804
10K
R7803
10K
47K
47K
QR7802
MRN1404
(RESET OFF)
C7816
25V4.7
R7801
100K
R7802
820K
R7806
100
R7807
5100
C7801
0.1
R7805
820K
VDD
CVBS
IREF
VCO
PD2
PD1
TAKT-
GENERATOR
(PLL)
BIPHASE CODE
TEST
START CODE
TEST
SCHIFT REGISTER
40BIT
TRANSMIT REGISTER
BANK 5×8BITS
DATA SLICING
PRE-
SCALER
SEQUENCE CONTROL
MULTIPLEXER
ADRESS-
DEKODER
AUTOM
RESET
CBB-
GENERATOR
AND
DECODER
FOR
LINE 16
SYNCHRON
PULSE
SEPARATOR
TEST-
SIGNAL-
GENERATOR
I²C-BUS INTERFACE
VSS
SCL
SDA
CSO
VCS
IC7853
SDA5642
R7821
2200
C7821
150P
C7822
0.033
C7823
47P
R7822
1M

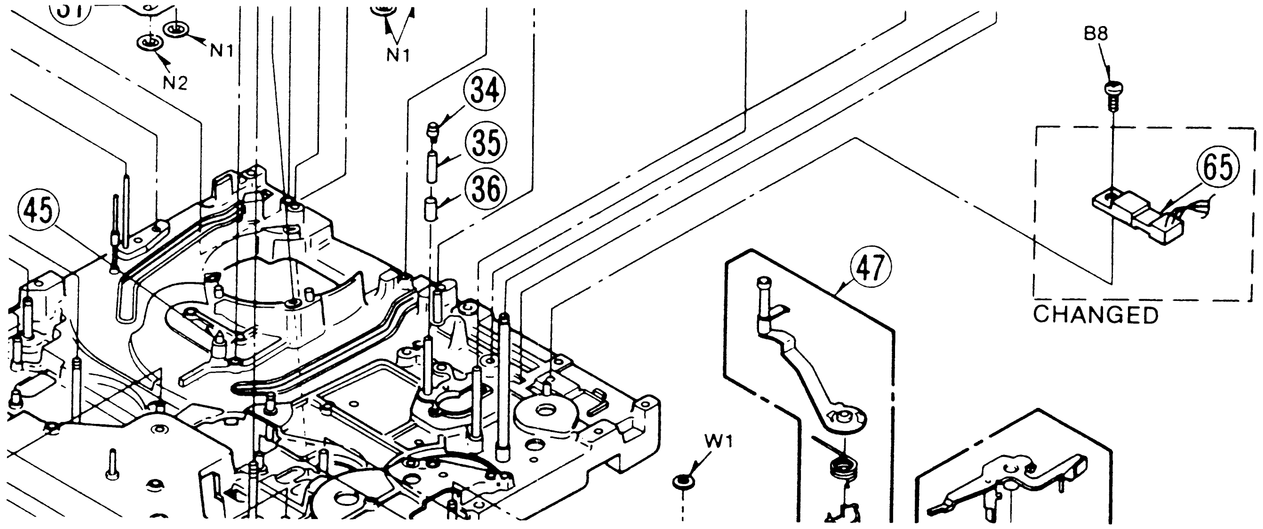
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

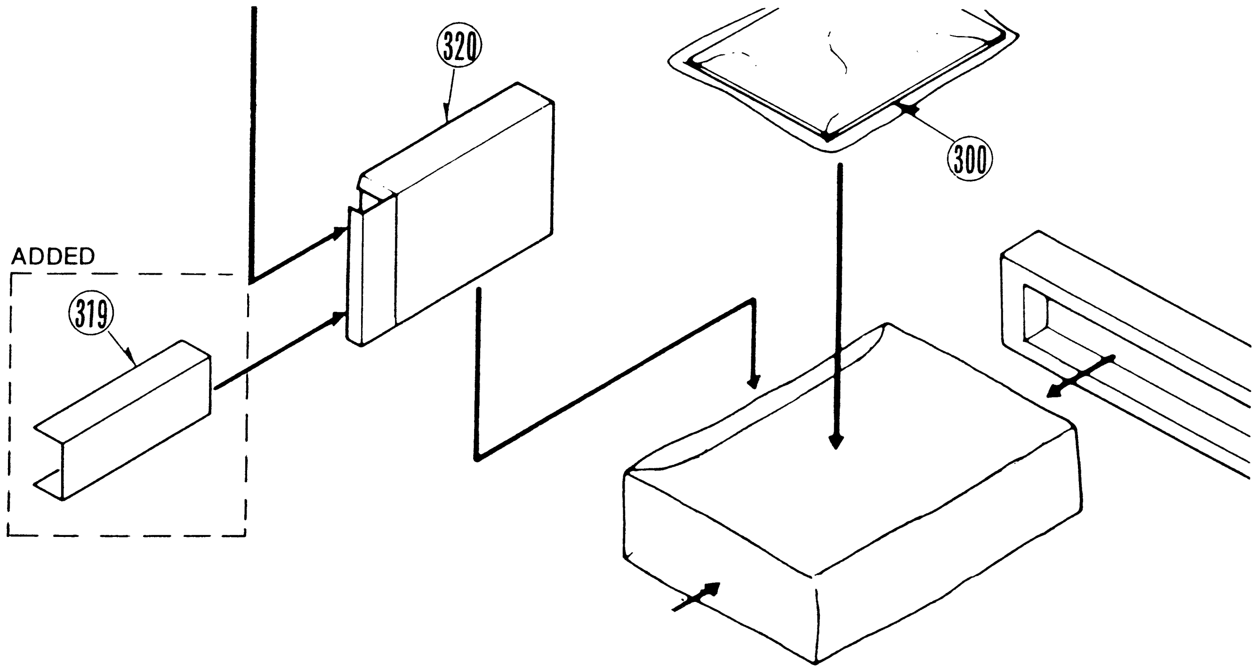
4. SUB SERVO SECTION IN MAIN SCHEMATIC DIAGRAM


POWER TRANSISTOR 2SB941PSW
P1506
REG
CAP VM
UNREG 14V
1
2
3
CHANGED
P2502
REG
CAP VM
UNREG 14V
1
2
3
GND
IC6502
LM358PS
VCC
R6508
10K

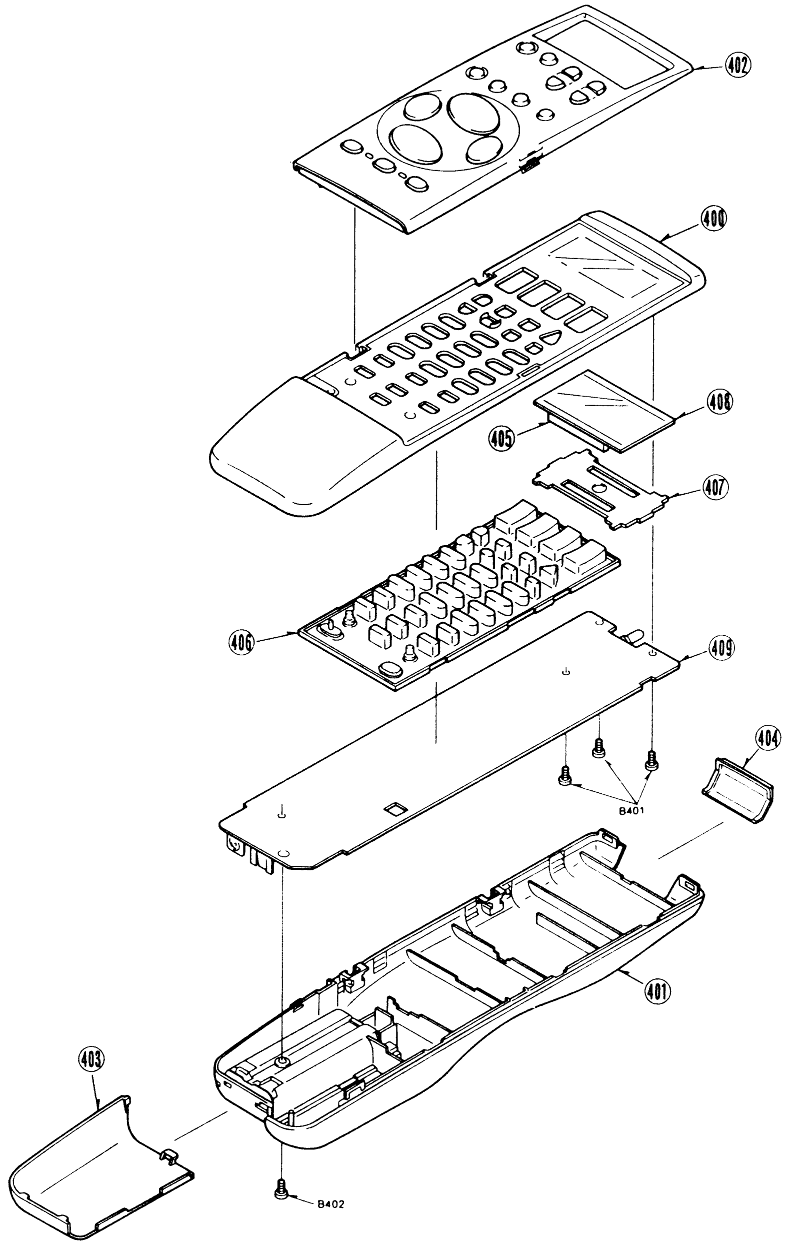
5. CHASSIS PARTS SECTION (1)


N1
N2
N1
34
35
36
45
47
W1
B8
65
CHANGED

6. PACKING PARTS SECTION


320
300
ADDED
319

7. REMOTE CONTROLLER UNIT


402
400
408
405
407
406
409
404
B401
401
403
B402

Note: 1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
400(5)		VYK5566	TOP COVER UNIT	1	SUPPLIED FROM MBV
401(5)		VYK5446	BOTTOM COVER UNIT	1	
402(5)		VYK5570	DOOR PANEL UNIT	1	SUPPLIED FROM MBV
403(5)		VKF2115	BATTERY COVER UNIT	1	
404(5)		VKW1802	IR WINDOW	1	
405(5)		VSQ0830	CONDUCTIVE RUBBER	2	
406(5)		VSP0782	RUBBER CONTACT	1	SUPPLIED FROM MBV
407(5)		VSQ0829	LCD SPACER	1	
408(5)		VSL0319A	LCD	1	SUPPLIED FROM MBV
409(5)			REMOTE CONTROLLER C.B.A.	1	THE C.B.A. IS NOT
					SUPPLIED AS SPARE
					PART.
B401(5)		XTB2+6GFZ	SCREW	3	
B402(5)		XTB2+8GFZ	SCREW	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			SERVICE FIXTURES & TOOLS		
		VFJ8125H3F	VHS ALIGNMENT TAPE(PAL)	1	
		VFK0335	RETAINING RING REMOVER	1	
			(3mm/4mm)		
		VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
		VFK0326	HEX WRENCH SET	1	
		VFK0132	BACK TENSION METER	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLYTONE GREASE	1	
		VFK0341	UPPER CYLINDER REMOVER	1	
		VFK0680	WHITE GREASE	1	
		VFK0851	CENTRE FIXING TOOL	1	
		VFK0330	FINE ADJUSTMENT GEAR DRIVER	1	

ORDER NO. VRD9302M108

Service Manual

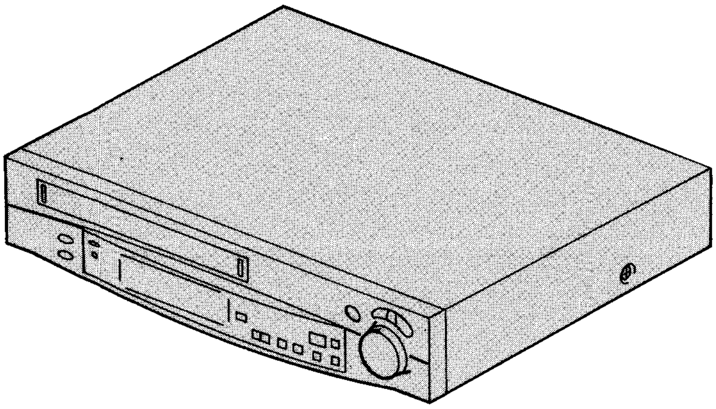
General Description
Adjustment Procedures
Block/Schematic Diagrams
Exploded Views/Parts List

Video Cassette Recorder

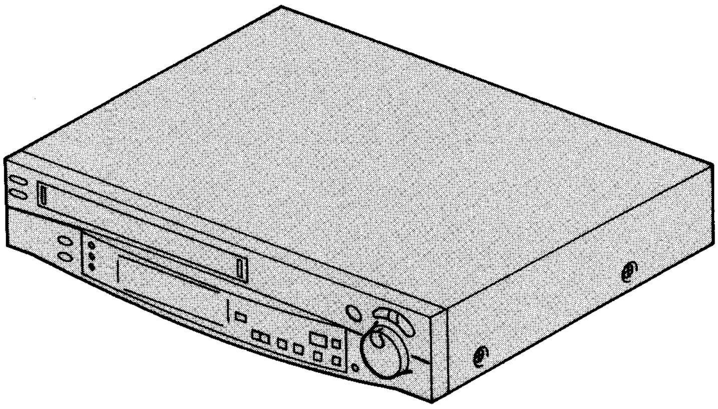
Panasonic VHS PAL HQ

NV-SD30$^{EG}_{B}$
NV-SD40$^{EG}_{B}$

K-MECHANISM



NV-SD30EG/B



NV-SD40EG/B

Panasonic

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.
Section 1 presents you with some technical know how for actual services and general information of features and controls, enabling you to become familiar with each function.
Section 2 contributes to your mechanical and electrical adjustment as well disassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to each service manual.
Section 3, 4 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c...
Section 5 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

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INTERNAL REFERENCE CODES

NOTE: This chart is only for internal reference.
Do not order any parts according to these codes.

P. C. B.	FILM CODE
MAIN	HOYS02-03971
TIMER(NV-SD30)	HOYS02-07701
TIMER(NV-SD40)	HOYS02-07699
POWER	HOYS03-01518
INPUT & OUTPUT	HOYS00-03973
TV DEMODULATOR (NV-SD30/SD40EG)	HOYS00-07726
TV DEMODULATOR (NV-SD30/SD40B)	HOYS01-07645
HEAD AMP	HOYS00-05182
LUMINANCE & CHROMINANCE	HOYS01-03A01
OPERATION(NV-SD40)	HOYS00-07716
MIC JACK(NV-SD40)	HOYS00-00S77
VPS(NV-SD30/SD40EG)	HOYS02-07538
POWER TRANSISTOR	HOYS00-00S86
MECHANISM CONNECTION	HOYS01-00S63
LOADING MOTOR	HOYS00-00S75

SPECIFICATIONS (NV-SD30EG/B)

ITEM	SPECIFICATION	
POWER	SOURCE: 220~240V AC 50/60Hz	
	CONSUMPTION: 25 watts (NV-SD30EG) 24 watts (NV-SD30B)	
RECORDING SYSTEM	2 rotary heads, helical scanning system	
	PAL	
TV TUNER SYSTEM	NV-SD30EG	VHF I: CHE2~CHE4 VHF III: CHS4~CHE12 VHS H: CHS11~CHS41 (PAL/SECAM B) UHF: CH21~CH69 (PAL/SECAM G) 75Ω terminated
	NV-SD30B	UHF: CH21~CH69 (PAL I) 75Ω terminated
RF OUT SYSTEM	NV-SD30EG	UHF: CH 36±4 (PAL/SECAM G) 70^{+2}_{-3}dBμ, 75Ω terminated
	NV-SD30B	UHF: CH36±6 (PAL I) 73±3dBμ, 75Ω terminated
VIDEO	HEADS: 3 rotary heads 1 pair for recording and playback (L-R heads) 1 pc. for trick play (L′ heads)	

ITEM	SPECIFICATION
VIDEO	INPUT: EURO AV Connector (21 pin) 1.0Vp-p, 75Ω unbalanced
	OUTPUT: EURO AV Connector (21 pin) 1.0Vp-p, 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal Audio)
	INPUT: EURO AV Connector (21 pin) More than −6dBV (500mV), 10kΩ
	OUTPUT: EURO AV Connector (21 pin) −6dBV (500mV), Less than 1kΩ
TAPE SPEED	23.39mm/s (PAL) 33.35mm/s (NTSC: NV-SD30B) Record/Playback Time: 4 hours with 240min. type tape FF/REW Time: 2.5min. with 180min. type tape
DIMENSIONS	380(W)×89(H)×356(D) mm
WEIGHT	4.6kg
STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. Programme Sheet (NV-SD30EG) 1 pc. AC Mains Lead 1 pc. Infra-res Remote Controller

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

SPECIFICATIONS (NV-SD40EG/B)

ITEM	SPECIFICATION	
POWER	SOURCE: 220~240V AC 50/60Hz	
	CONSUMPTION: 25 watts (NV-SD40EG) 24 watts (NV-SD40B)	
RECORDING SYSTEM	2 rotary heads, helical scanning system	
	PAL	
TV TUNER SYSTEM	NV-SD40EG	VHF I: CHE2~CHE4 VHF III: CHS4~CHE12 VHF H: CHS11~CHS41 (PAL/SECAM B) UHF: CH21~CH69 (PAL/SECAM G) 75Ω terminated
	NV-SD40B	UHF: CH21~CH69 (PAL I) 75Ω terminated
RF OUT SYSTEM	NV-SD40EG	UHF: CH 36±4 (PAL/SECAM G) 76^{+2}_{-3}dBμ, 75Ω terminated
	NV-SD40B	UHF: CH36±6 (PAL I) 73±3dBμ, 75Ω terminated
VIDEO	HEADS: 4 rotary heads 1 pair for recording and playback (L-R heads) 1 pair for trick play (L′-R′ heads)	
	INPUT: EURO AV Connector (21 pin) 1.0Vp-p, 75Ω unbalanced VIDEO IN Connector (Phono type) 1.0Vp-p, 75Ω unbalanced	
	OUTPUT: EURO AV Connector (21 pin) 1.0Vp-p, 75Ω unbalanced	

ITEM	SPECIFICATION
AUDIO	HEAD: 1 Stationary head (Normal Audio)
	INPUT: EURO AV Connector (21 pin) More than −6dBV (500mV), 10kΩ AUDIO IN Connector (Phono type) More than −10dBV (316mV), 50kΩ MICROPHONE JACK −70dBV
	OUTPUT: EURO AV Connector (21 pin) −6dBV (500mV), Less than 1kΩ
TAPE SPEED	SP: 23.39mm/s (PAL) 33.35mm/s (NTSC) LP: 11.695mm/s (PAL) 11.12mm/s (NTSC) Record/Playback Time: SP: 4 hours with 240min. type tape LP: 8 hours with 240min. type tape FF/REW Time: 2.5min. with 180min. type tape
DIMENSIONS	380(W)×89(H)×357(D) mm
WEIGHT	4.6kg
STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. Programme Sheet (NV-SD40EG) 1 pc. AC Mains Lead 1 pc. Infra-res Remote Controller

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

SECTION 1
GENERAL DESCRIPTIONS

1-1. SERVICE INFORMATION

1-1-1. K-MECHANISM INFORMATION

A. SERVICE POSITION

When servicing the K-Mechanism, the Mechanism can easily be fixed by standing the Mechanism up in the Main Frame as shown below to check easily.
In this position, the following services are possible.

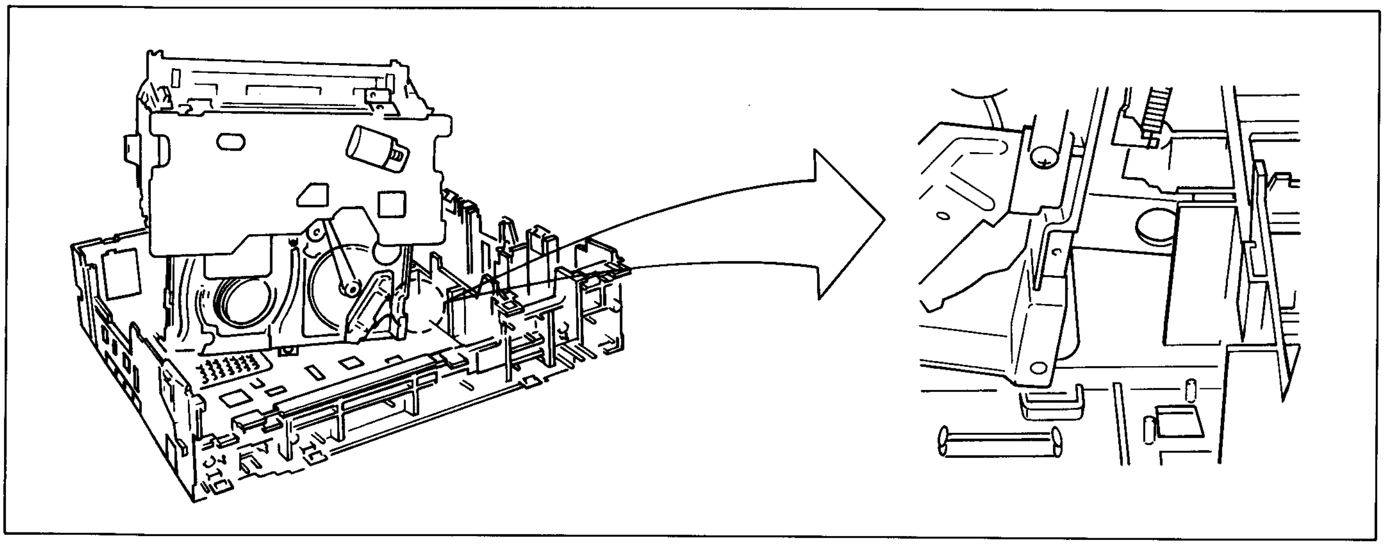


Fig. S1

A-1. CHECKING OF GEAR PHASE
ALIGNMENT CONDITION

1) Remove the Mechanism Connection C.B.A.
2) Check gear phase visually.
(Refer to the Phase Alignment Condition of Mechanism described on the left side of Frame.)

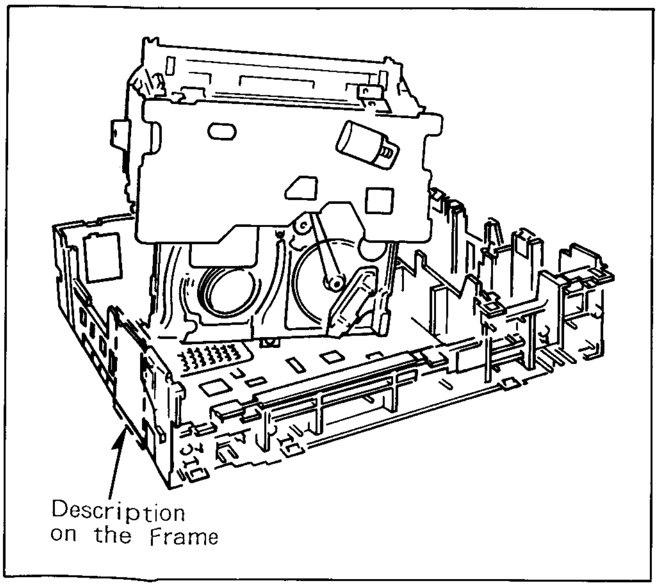


Fig. S2

A–2. Checking of Loading / Unloading Operation.

There are 3 methods for manual operation of loading/unloading operation as follows.

1. HAND OPERATION
   1) Remove the Mechanism Connection C.B.A.
   2) Turn the Worm Gear or the WORM WHEEL GEAR (Remove the Loading Motor Unit) manually.

2. BATTERY OPERATION
   1) Remove the Mechanism Connection C.B.A.
   2) Connect the Battery or Power Supply (+6V) to the Loading Motor terminals.

3. SERVICE INFORMATION DISPLAY OPERATION
   1) Set the Service Information Display mode. (Press the "EJECT" button while turning the "SHUTTLE RING" clockwise.)
   2) Momentarily make a short circuit by inserting tweezers into the two holes at TV/VTR SW(SW12) LOCATED on the Timer C.B.A. (The end of display on the Display becomes "––".)
   3) In the above condition, The Loading Motor rotates for Loading operation by pressing the "PLAY" button. The Loading Motor rotates for unloading operation by pressing the "STOP" button.

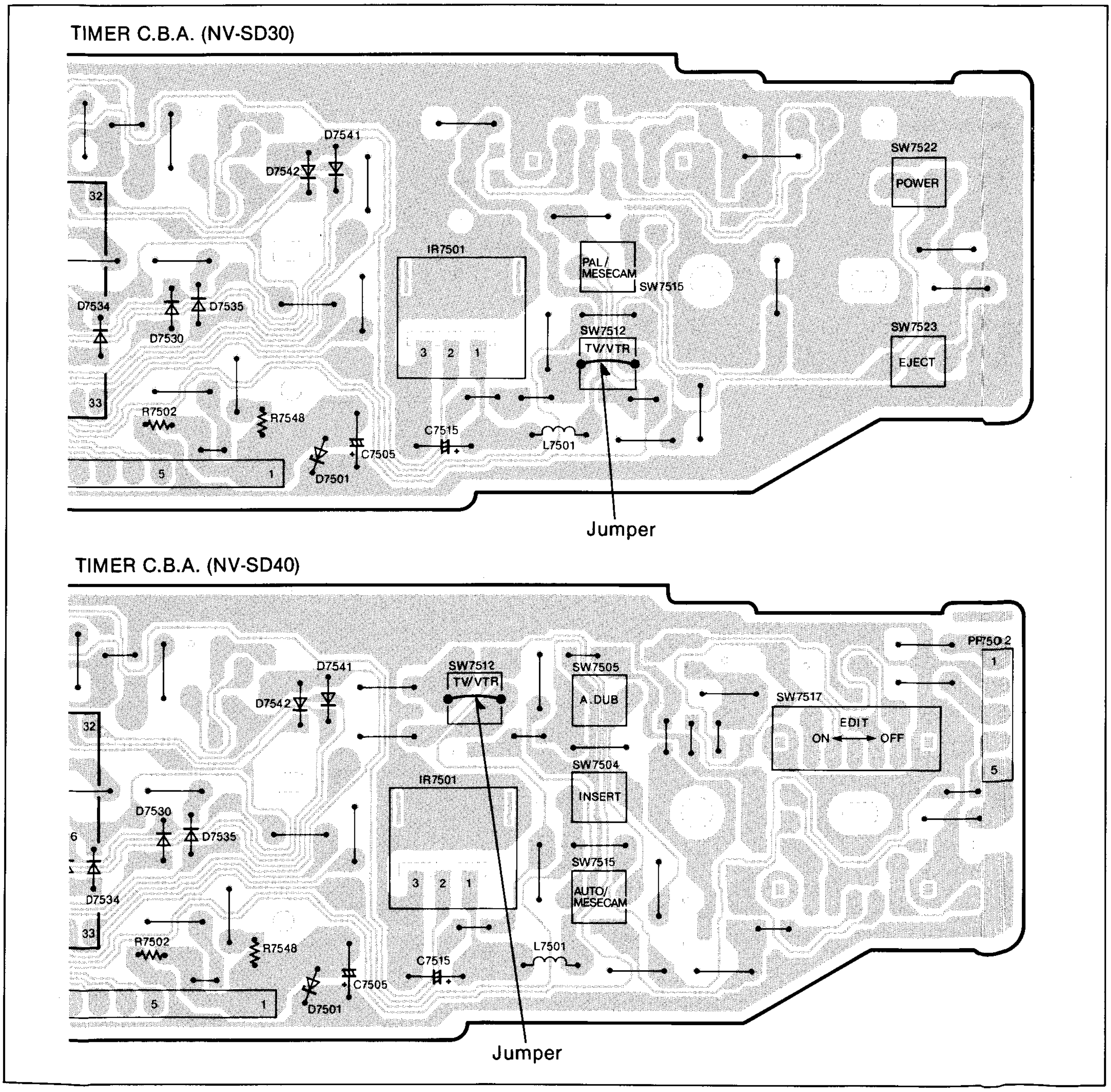

TIMER C.B.A. (NV-SD30)
D7541
D7542
32
33
D7534
D7535
D7530
R7502
R7548
5
1
D7501
C7505
C7515
L7501
IR7501
3 2 1
PAL/MESECAM
SW7515
SW7512
TV/VTR
SW7522
POWER
SW7523
EJECT
Jumper
TIMER C.B.A. (NV-SD40)
D7541
D7542
32
6
33
D7530
D7535
D7534
R7502
R7548
5
1
D7501
C7505
C7515
L7501
IR7501
3 2 1
SW7512
TV/VTR
SW7505
A.DUB
SW7504
INSERT
SW7515
AUTO/MESECAM
SW7517
EDIT
ON OFF
PP7502
1
5
Jumper

Fig. S3

Remark:

After checking, check the "SERVICE DISPLAY INFORMATION" mode for final confirmation of movement of Mechanism.

A-3. Checking of operation of Reel Gears.

1) Remove the Mechanism Connection C.B.A.
2) Set mechanism to "PLAY" position by manual operation of loading.
3) Turn the "Rotor Unit" to check movement of reel gears.

B. REPLACEMENT OF CYLINDER UNIT

The Cylinder Unit can be replaced easily by the following method.

1) Remove the Top Panel.
2) Remove the 3 screws of the Cylinder Unit with a magnetized screw driver through the holes on the Bottom Plate as shown in Fig.S4.

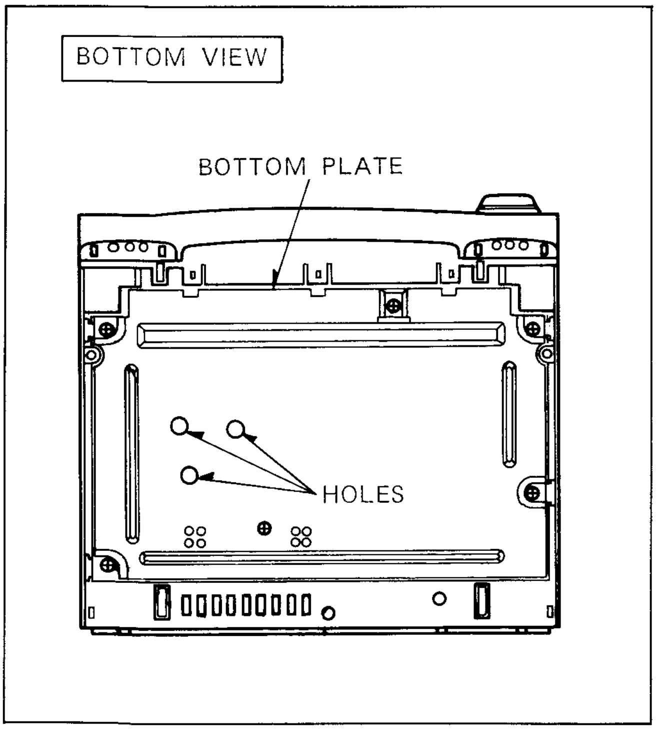

BOTTOM VIEW
BOTTOM PLATE
HOLES

Fig. S4

C. ASSEMBLY OF CAPSTAN STATOR UNIT

When replacing the CAPSTAN STATOR UNIT, the CENTRE FIXING TOOL (VFK0851) must be used to fix the centre of CAPSTAN STATOR UNIT.

Method:

1) Place the CAPSTAN STATOR UNIT into position.
2) Loosely tighten the 3 screws.
3) Insert the CENTRE FIXING TOOL (VFK0851) as shown in Fig.S5.
4) Tighten the 3 screws.
5) Remove the CENTRE FIXING TOOL.

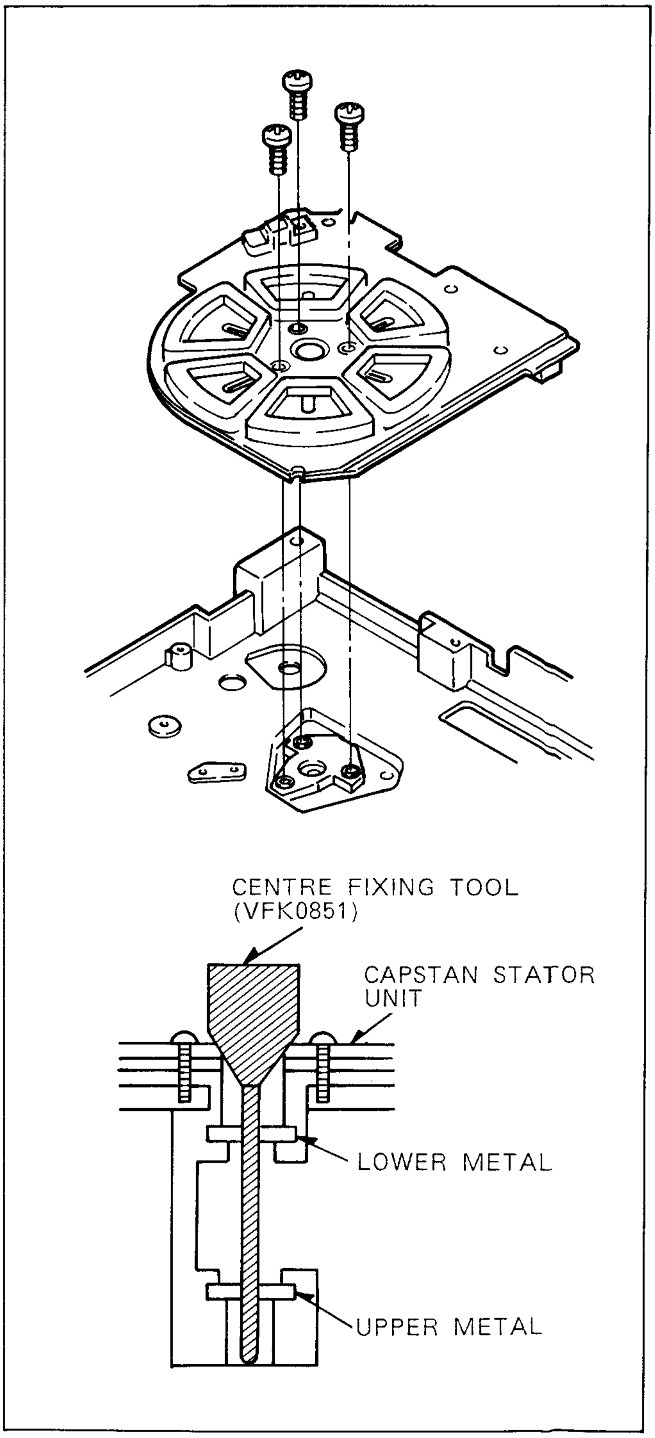

CENTRE FIXING TOOL
(VFK0851)
CAPSTAN STATOR UNIT
LOWER METAL
UPPER METAL

Fig. S5

D. EJECT OPERATION

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

<NOTE>
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear and will not rotate.
For performing the Eject operation with the cassette carriage not installed, it is necessary to rotate the carriage connection gear by hand in the direction of the arrow.

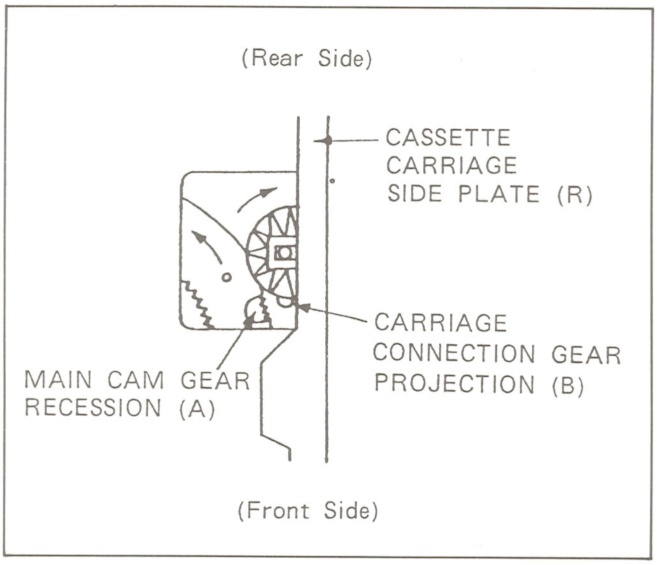

(Rear Side)
CASSETTE CARRIAGE SIDE PLATE (R)
CARRIAGE CONNECTION GEAR PROJECTION (B)
MAIN CAM GEAR RECESSION (A)
(Front Side)

Fig. S6 Top View of Eject Operation

E. TAKE–UP PHOTO SENSOR OPERATION

Note the following matters for Take–up Photo Sensor Operation.

1) While servicing of the K–Mechanism, the unit will not operate properly if a strong light (ex, Fluorescent light, Spot light) falls on the Take–up Photo Sensor.
   In this case, cover the Take–up Photo Sensor to prevent the light from falling on it.
2) While servicing of the K–Mechanism with "Power On" and without cassette tape inserted, the Unit does not operate properly.

F. SERVICING OF POWER TR. C.B.A.

When removing the connector on the Power Tr. C.B.A., hold the P. C. Board by hand to prevent damage of the Power Tr.

1–1–2. REMOVAL OF THE CASSETTE TAPE.

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to remove the cassette manually. There are 2 methods of removing the cassette.

1. HAND OPERATION

1) Remove the bottom plate.
2) Turn the WORM GEAR to "A" arrow mark direction manually as shown in Fig.S7, moving the LOADING POST to the unloaded position.
3) Turn the CAPSTAN clockwise to take up the tape.
4) Turn the WORM GEAR again to eject the cassette.

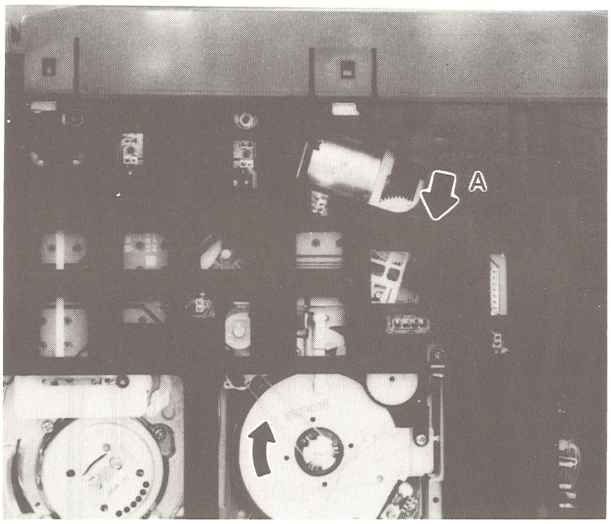


Fig. S7

2. BATTERY OPERATION

1) Connect the battery to P1503 as shown in Fig.S8.
2) After moving the LOADING POST to the unloaded position, disconnect the battery to stop the motor.
3) Turn the CAPSTAN to clockwise to take up the tape.
4) Reconnect the battery to eject the cassette.

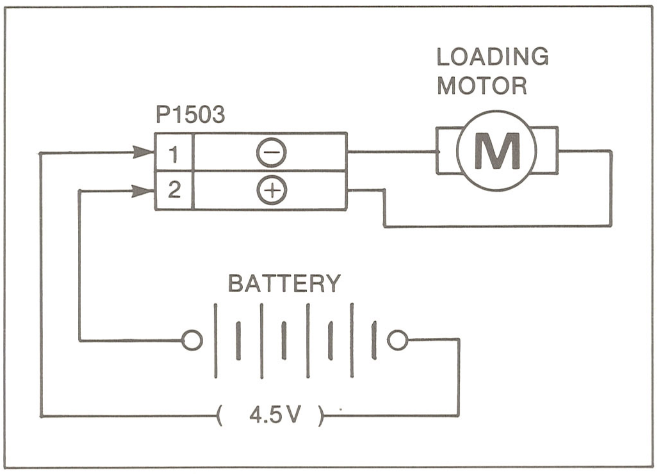

LOADING
MOTOR
P1503
1
2
⊖
⊕
M
BATTERY
4.5V

Fig. S8

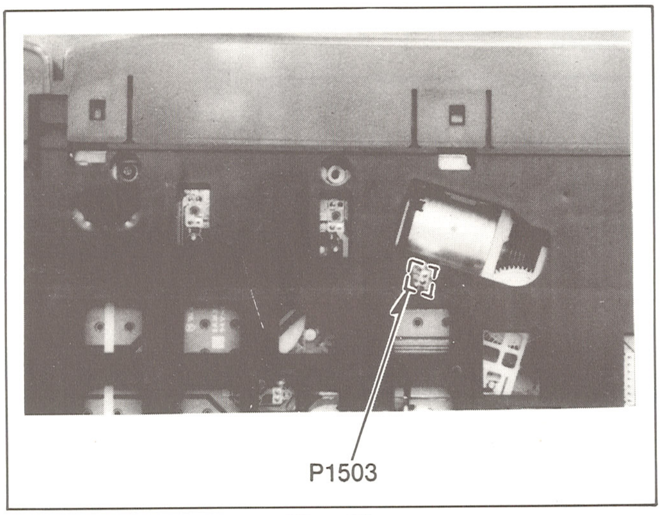


Fig. S9

1-1-3. INSTALLATION OF FLAT CARD CABLE

When installing of the Flat Card Cable to the connector, make sure the direction of the Flat Card Cable. The Insulation Sheet side is backside.

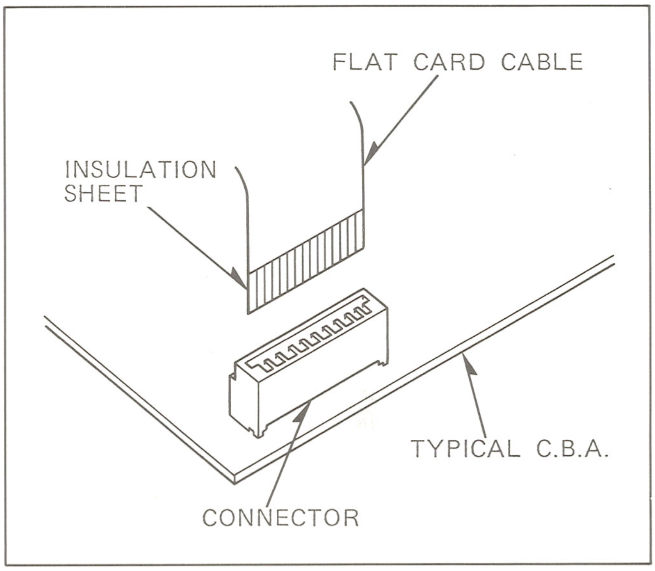

FLAT CARD CABLE
INSULATION
SHEET
TYPICAL C.B.A.
CONNECTOR

Fig. S10

1-1-4. SERVICING OF LUMINANCE & CHROMINANCE PACK C.B.A.

When servicing of the Luminance & Chrominance Pack C.B.A., set to the following condition for easy servicing.

1) Remove the Input/Output Pack C.B.A.
2) Remove the TV Demodulator Pack C.B.A.
3) Install the Input/Output Pack C.B.A.

NOTE:
For checking of Recording operation and playback signal, use the AV 21 Pin Terminal on rear panel.

1–1–5. INITIALIZATION OF CHANNEL MEMORY IC (IC7504/M6M80021P)

When replacing the channel memory IC (IC7504/M6M80021P), the memory IC should be initialized to keep formal specification.)

Note:

1) It should be performed before tuning.
2) During initialization or after initialization within 1 second, do not stop the power source. (Do not disconnect AC cord.)
3) Meaning of "INITIALIZATION" is to erase the "SKIP CH" In other words the number of channel position is the same as displayed channel.

Method:

1) Press the CH UP/DOWN Button so that the Channel indicator indicates "3".
2) Connect a jumper wire between Pin 54 and Pin 35 of IC7501 for more than 1 second.
3) Channel indication changes from "3" to "1".

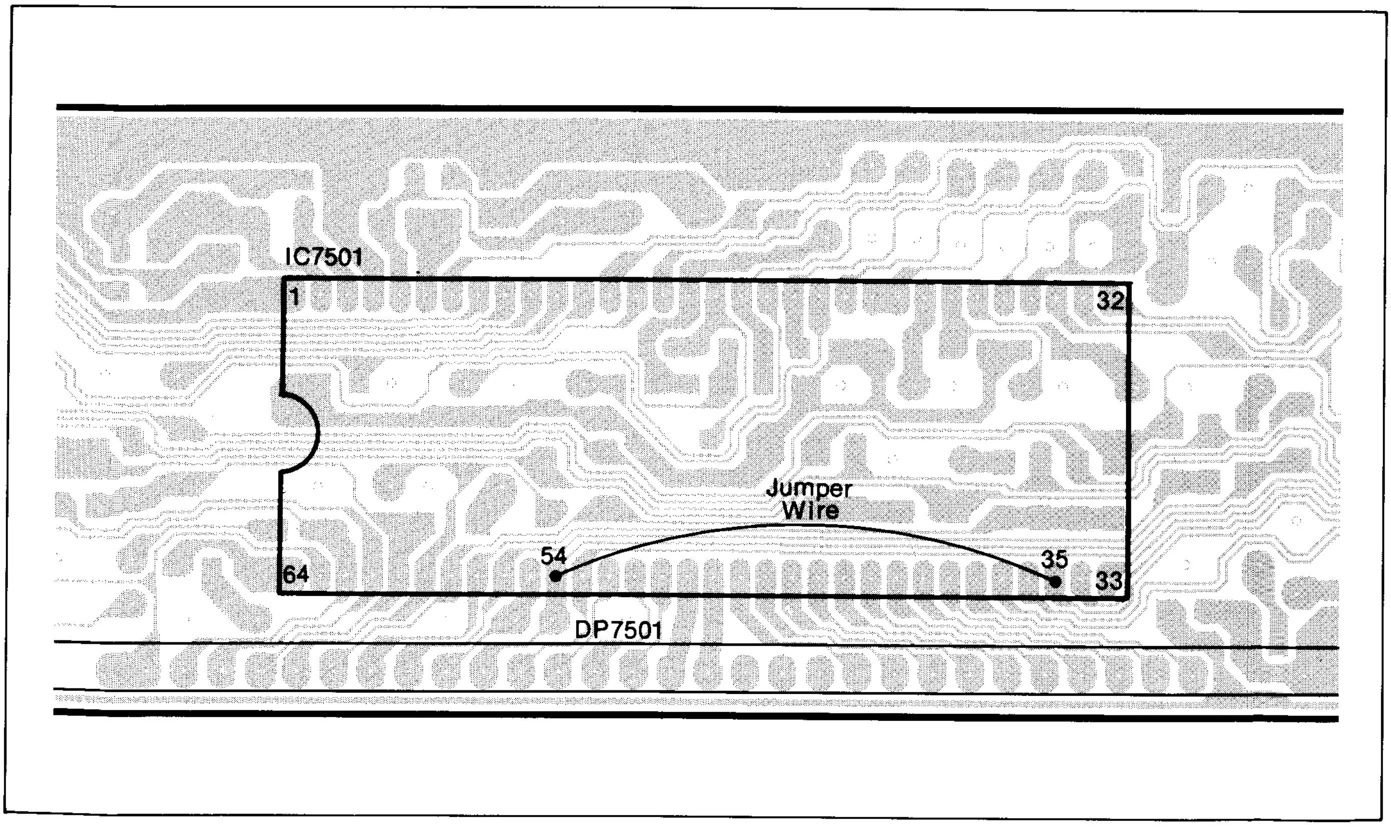


Fig. S11

1–1–6. HOW TO CHECK THE CRACKED CHIP PART

(1) Apply heat to the soldered portions of chip part using a soldering iron for about 2–3 seconds.
(2) If the chip part is faulty, it will fracture.

Caution:
Do not leave soldering iron on the PCB too long as damage may occur to the PCB or the chip parts.

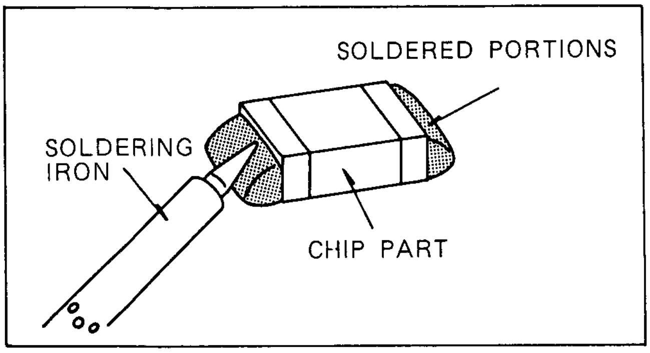

SOLDERED PORTIONS
SOLDERING IRON
CHIP PART

Fig. S12

Note:
Regarding intermittent faults.
The main causes of these faults are poor soldering and cracked chip parts.

1–1–7. HOW TO REPLACE THE CHIP PART

1)REMOVAL (RESISTOR, CAPACITOR, etc...)

(1) Presolder the one side of soldering portion for chip part and grasp the chip part by tweezers.
(2) Melt the presoldered portion. And then remove the chip part with a twisting motion while melting the soldering portion of another side quickly.

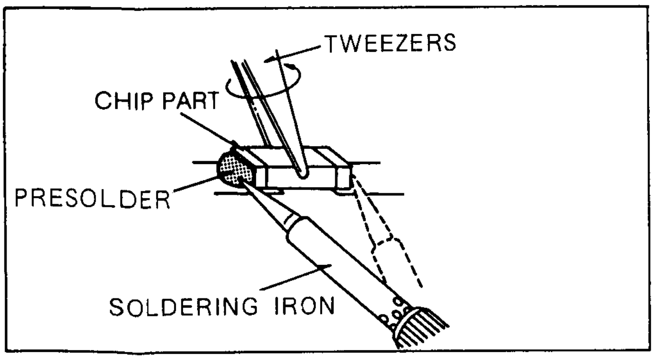

TWEEZERS
CHIP PART
PRESOLDER
SOLDERING IRON

Fig. S13

2) REMOVAL (transistor, diode, etc...)

(1) Grasp the chip part with tweezers and melt the solder of one lead.

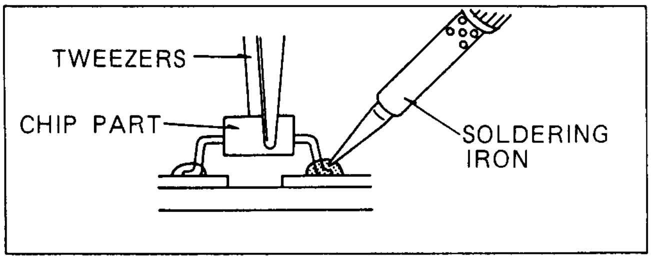

TWEEZERS
CHIP PART
SOLDERING IRON

Fig. S14

(2) Lift the side of that lead upward.

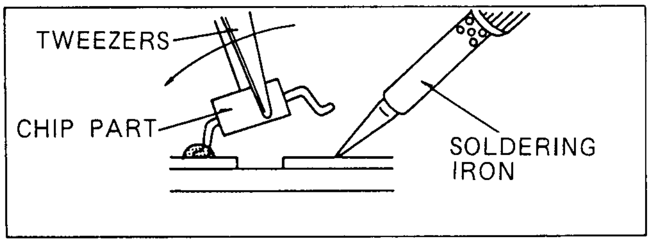

TWEEZERS
CHIP PART
SOLDERING IRON

Fig. S15

Caution:
Do not lift the chip part too high as damage may occur to the PCB or the leads that are still soldered on the PCB.

(3) Simultaneously heat the solder of the two remaining leads and lift part to remove.

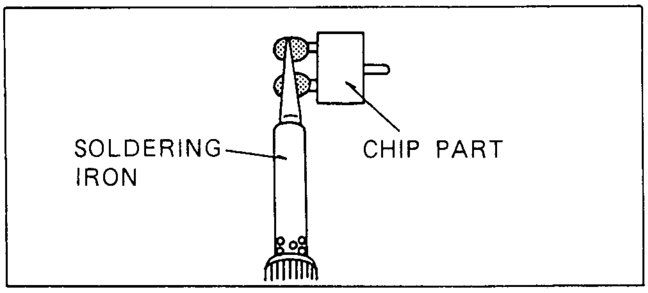

SOLDERING IRON
CHIP PART

Fig. S16

3) INSTALLATION

(1) Presolder the one side of contact point on the circuit board.

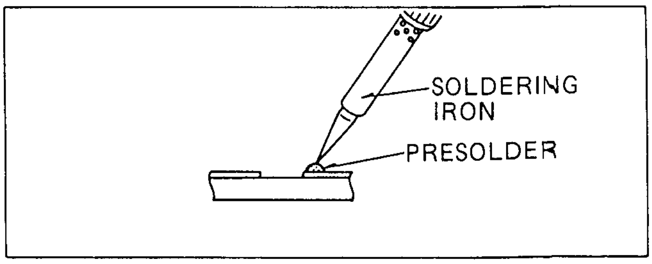

SOLDERING IRON
PRESOLDER

Fig. S17

(2) To install the chip part, hold in position using tweezers, apply heat to the pre–soldered portions using a fine tip soldering iron.
(3) Solder the other side of the chip part.
(4) Check your soldering and ensure no short circuits between pins.

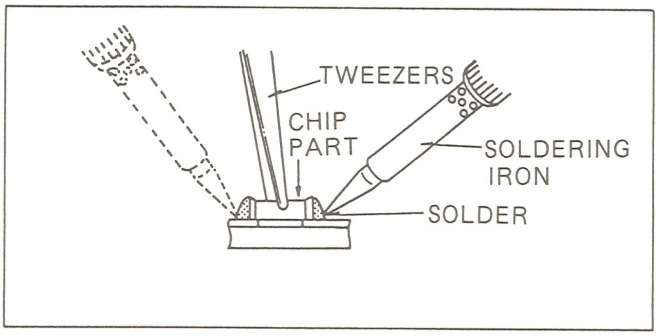

TWEEZERS
CHIP PART
SOLDERING IRON
SOLDER

Fig. S18

1–1–8. HOW TO REMOVE THE FLAT–IC

(WITH HOT–AIR FLAT–IC DESOLDERING MACHINE)

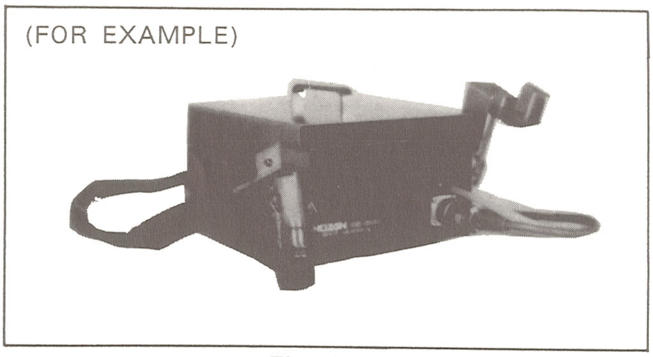

(FOR EXAMPLE)

Fig. S19

(1) Prepare the HOT–AIR FLAT–IC DESOLDERING MACHINE. And then apply hot air to FLAT–IC about 5–8 seconds.
(2) Remove the FLAT–IC with tweezers while applying the hot air.

Caution:
Do not supply the hot air to the chip parts around the Flat–IC for long time as damage may occur to the chip parts around the Flat–IC.

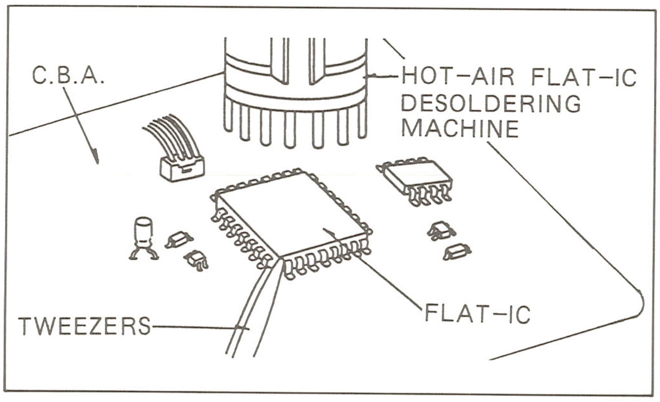

C.B.A.
HOT–AIR FLAT–IC DESOLDERING MACHINE
TWEEZERS
FLAT–IC

Fig. S20

(WITH SOLDERING IRON)

(1) Using solder braid remove the solder from all pins of the Flat–IC.
When you use the solder flux which is applied to all pins of the Flat–IC, you can remove it easily.

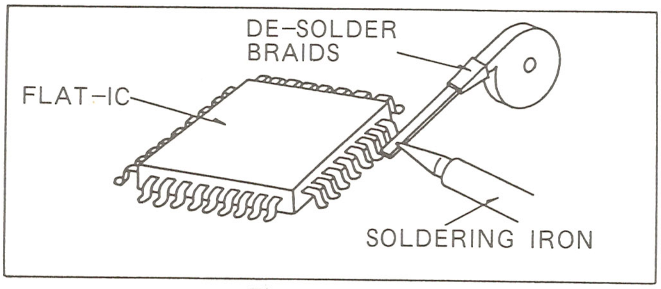

DE–SOLDER BRAIDS
FLAT–IC
SOLDERING IRON

Fig. S21

(2) Lift each lead of the Flat–IC upward one by one using a sharp pin or non solder wire(iron wire), while heating the pins using a fine tip soldering iron or a hot air blower.

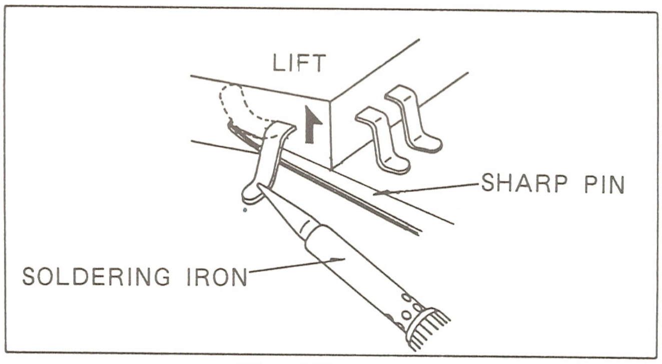

LIFT
SHARP PIN
SOLDERING IRON

Fig. S22

(WITH IRON WIRE)

(1) Affix the wire to workbench or solid mounting point as shown in Fig.S23.
(2) Pull up wire as the solder melts so as to lift the IC lead from the PCB contact pad, while heating the pins using a fine tip soldering iron or hot air blower.

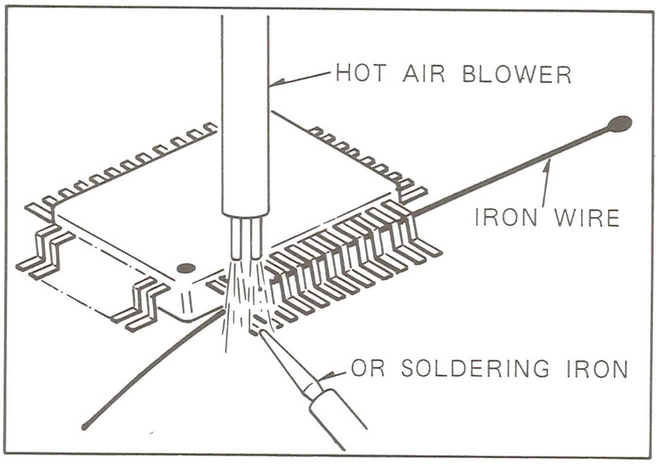

HOT AIR BLOWER
IRON WIRE
OR SOLDERING IRON

Fig. S23

Note:
When using a soldering iron care must be taken to ensure that the Flat IC is not being held by glue before it is the PCB may be damaged if force is used.

1-2. SERIAL DATA/CLOCK TRANSMISSION ERROR DISPLAY

If the Serial Data/Clock is not transmitted from IC6001 to IC7501, "E9" is displayed as shown in Fig.T1. This indication will be displayed either during the Service Information Display mode or in normal mode.

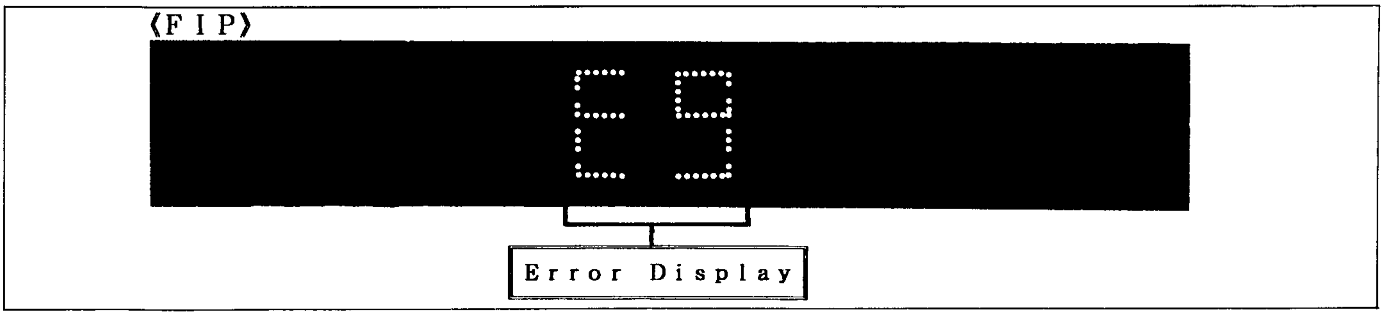

〈F I P〉
E9
Error Display

Fig. T1 Serial Data/Clock Transmission Error Display

1-3. SERVICE INFORMATION DISPLAY

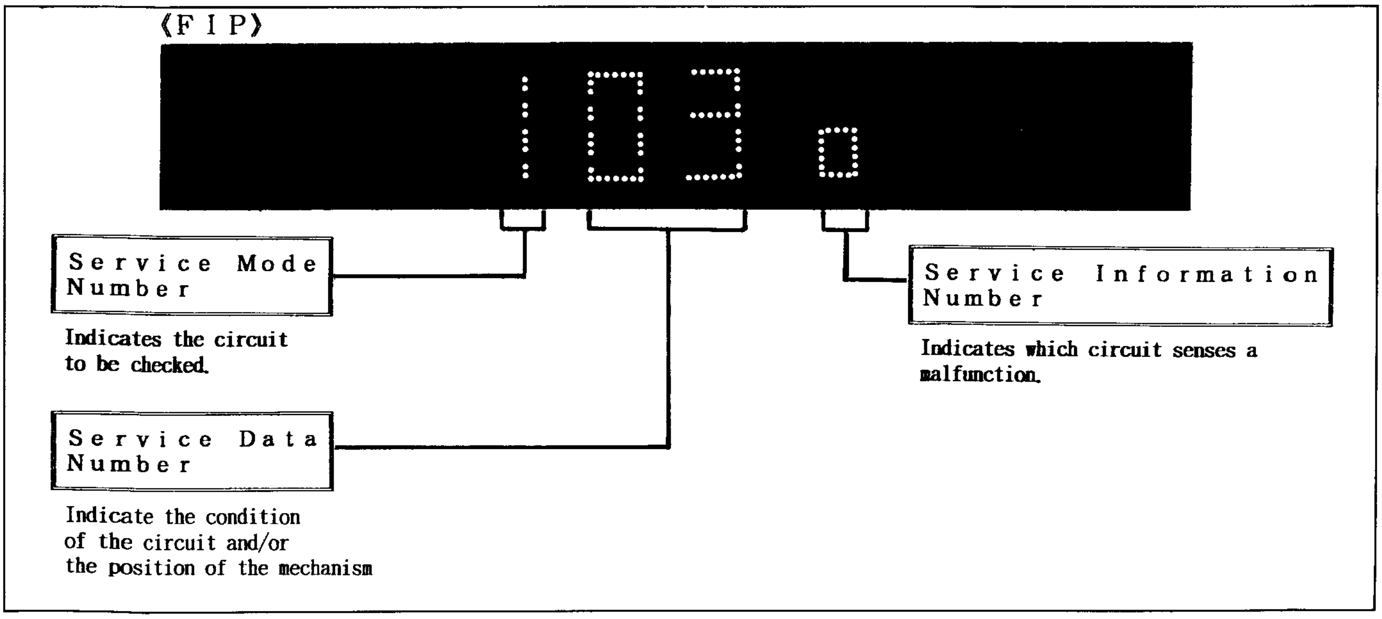

〈F I P〉
103 0
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicate the condition of the circuit and/or the position of the mechanism
Service Information Number
Indicates which circuit senses a malfunction.

Fig. D1 Service Information Display

1-3-1. Purpose of Service Information Display

This information aids trouble shooting by indicating the source of the malfunction. The service mode number & service data number are used by the technician during repair while the service information can be used by the consumer to diagnose malfunctions allowing the technician to provide a more accurate repair cost estimate and reduce repair time.

1-3-2. Turning on Service Information Display

There are two ways to turn on the Service Information Display.

(1) Turn the Shuttle Ring to FF then push the Eject button. The Service Information will be displayed for 1 minute.
(2) Connecting a jumper wire between TPSERV and TPGND will display the service information indefinitely.

In the Service Information Display, there are four digits divided into 3 functions.
The first digit indicates which other 6 service modes that the unit is Currently in.

MODE 1 : Check tape protection circuit
MODE 2 : Check tape transport mechanism
MODE 3 : Check mode switching operation
MODE 4 : Check control buttons
MODE 5 : Check capstan motor
MODE 6 : Check cylinder motor

The second and third digits are service data which indicate the condition of the circuit or mechanism being checked.

The fourth digit is the service Information display. It is to be used by the consumer to help determine the source of a malfunction. The service information display operates independently of the service modes and stores the fault indication in memory for as long as AC power is supplied.

1-3-3. Use of Service Modes

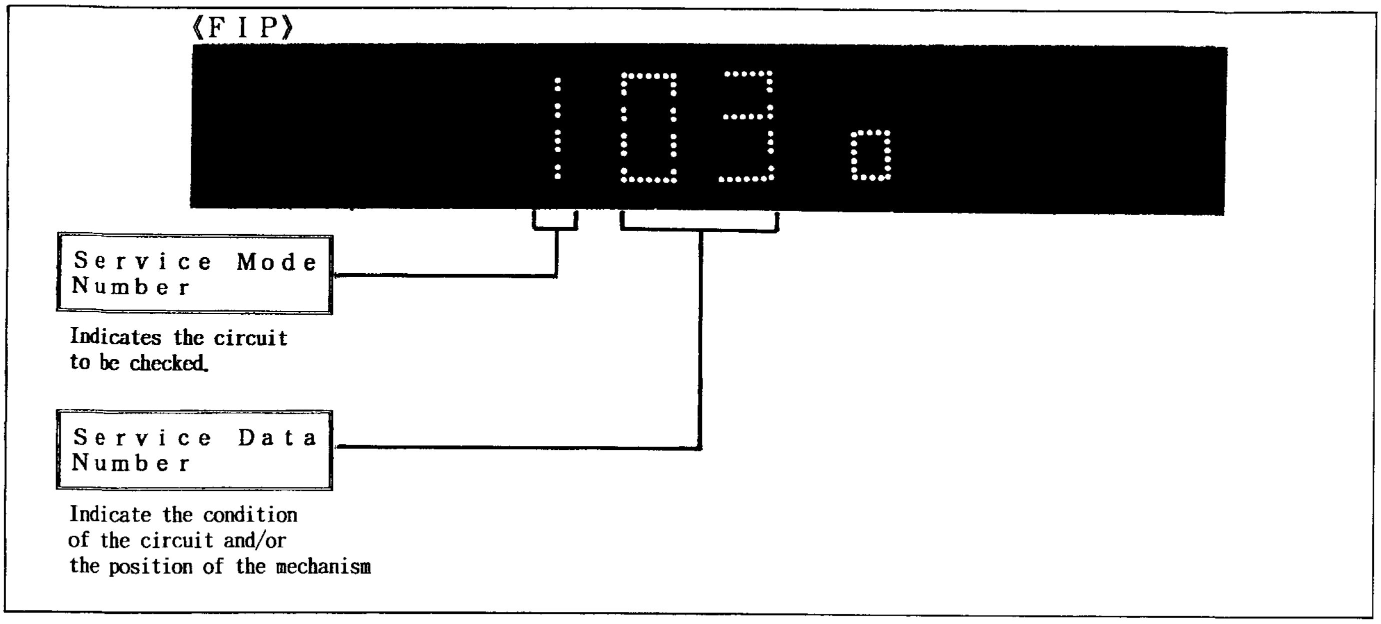

《F I P》
1 03 o
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicate the condition of the circuit and/or the position of the mechanism

Fig. D2 Service Mode Number and Service Data Number on S.I.D.

(1) Turn on Service Information Display.

(2) To change Service Modes turn the shuttle ring to FF then push the Eject button.

(3) Mode 1 : Checks that the Sensor LED, Supply & Take–up Sensor circuits check the circuits by blocking the light from the Sensor LED to either or both Supply & Take–up Sensors.
When the light is blocked to both sensors, "00" should be indicated on the service data number.
When the light is blocked to the supply sensor, "01" should be indicated.

(4) Mode 2 : Checks the mode switch circuit while indicating mechanism position.
Service Data Numbers indicate the position of the mode switch and there by the mechanism position.

(5) Mode 3 : Checks that mode switch circuit operations have been completed.
Service Data Number should indicate "00" after each mechanism operation is completed.

(6) Mode 4 : Checks the operation circuit.
Indicates if IC6001 receives the operating commands from the mode buttons and/or remote controller.

(7) Mode 5 : Checks the capstan motor circuit.
Indicates if the IC6001 has received the command to rotate the capstan motor.

(8) Mode 6 : Checks the cylinder motor circuit.
IC6001 has received the command to rotate the cylinder motor.

<NOTE>
Refer to Fig.D5 for details of Service Data Number.

1-3-4. Service Information Number

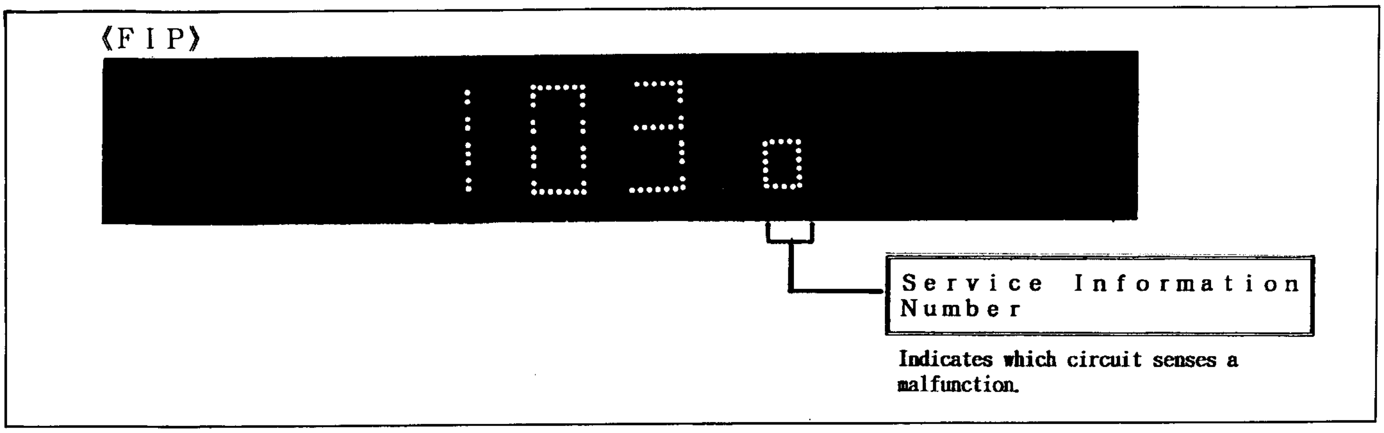

⟨FIP⟩
103 0
Service Information Number
Indicates which circuit senses a malfunction.

Fig. D3 Service Information Number on S.I.D.

Refer to Fig.D4 for details of Service Information Number.

Note:
The Service Information Number display is independent of the service mode display.
The Service Information Number will be stored as long as AC power is supplied.
If a second error occurs, the most current error will be displayed.

Service Information Number	Malfunction
0	Normal (No problem)
1	Cylinder stop
2	Tape reel stop
3	Stop at position other than 4 or 6
4	Stop during unloading
5	Falty capstan rotation
6	Stop during Cassette-In/Eject operation

Fig. D4 Service Information

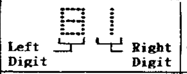
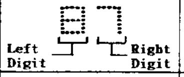
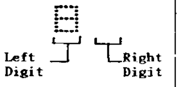
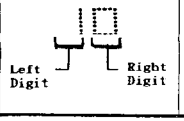
Service mode Number	Note for checking Service Data Numbers	Service Data Numbers	Indication	Remarks
1	————————	00	No light detected at either sensor	Tape not required
		01	Tape Begining. Light to Supply Photo Sensor is blocked.	
		02	**Tape End. Light to Take-up Photo Sensor is blocked.**	
		03	Light detected at both sensors.	
2	————————	00	EJECT	Tape Reuired *1 : STOP3 ; The Pinch Roller is on the capstan motor shaft. *2 : STOP ; The Pinch Roller is off the capstan motor shaft. Refer to Fig. D7 to Check mechanism Position and timing.
		01	Cassette-down	
		02	REV, REV SLOW	
		03	Loading/Unloading	
		04	PLAY/REC, STILL/PAUSE, CUE, FWD SLOW, STOP3 *1	
		05	STOP*2	
		06	FF/REW	
		07	Intermediate position	
3	Disregard service data displayed until mechanism operation is completed. Then the display should indicate "00".	00	Any display other than "00" indicates a fault in the mode switch circuit or system.	Tape Required.
4	Display only when the operating button is pressed.	Refer to Fig. D6		Tape not required.
5	Left digit only, disregard Right digit display.		8, 9, u, A, –, n, L, and no display indicate that the Capstan motor "PLAY" command recived by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.
	Right digit only, disregard left digit display.		1, 2, 3, 4, 5, 6, 7, indicate that the Capstan motor CUE, FF, Forward slow" commands received by IC6001.	
	Right digit only, disregard left digit display.		8, 9, u, A, –, n, L, and no display indicate that the Capstan motor Reverse, Rew, Reverse Slow commands received by IC6001.	
6	Left digit only, disregard Right digit display.		1, 3, 5, 7, 9, A, n and no display indicate that the cylinder motor "ON" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.

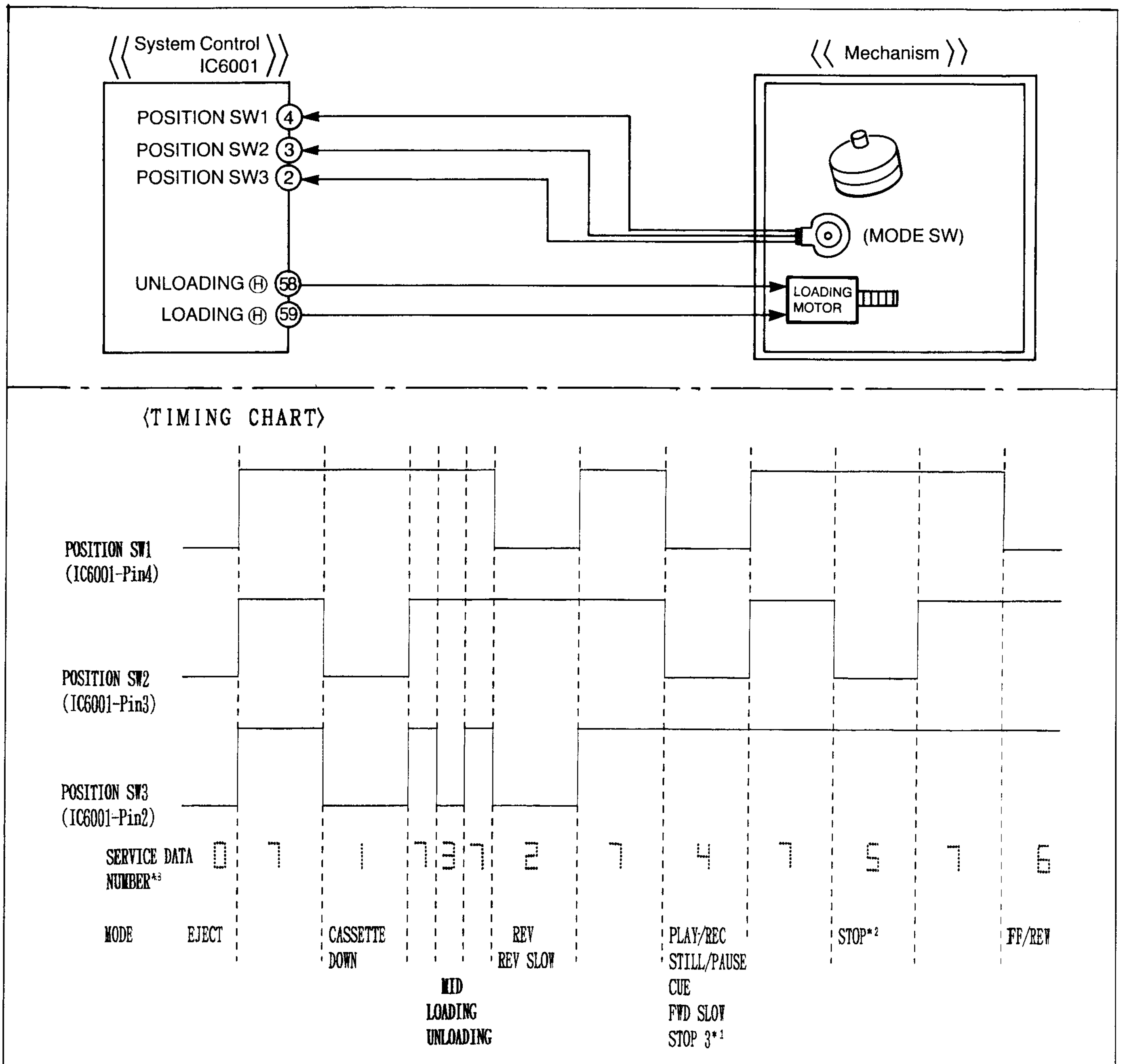
Fig. D5 Service Data Display and Indication

SERVICE DATA NUMBERS	MODE BUTTONS	SERVICE DATA NUMBERS	MODE BUTTONS
3n	OPERATE	54	RESET
01	EJECT	5	ZERO STOP
09	AUDIO DUB	-0	INPUT SELECT
A3	INSERT	49, 4U	INDEX
-9	PAL/MESECAM	A1, A2	TRACKING(+, -)/V-LOCK
——	CHECK/PROG.	9	REPEAT
34 OR 35	∧∨, +−	8	SKIP
——	NEXT/SP/LP	——	TAPE SELECT
——	SLEEP/SHIFT	——	PROG.
A4	TIMER REC	——	NEXT
08	REC	——	RECORDING SP/LP
——	CLOCK SET	——	CANCEL
——	TUNER PRESET	10	SU(1)
80	PAUSE/STILL	11	MO(2)
0U	PLAY	12	TU(3)
00	STOP	13	WE(4)
0-, 0n	JOG DIAL (FRAME ADV, REVERSE ADV)	14	TH(5)
03, 02	SHUTTLE RING (FF, REW)	15	FR(6)
——	TV/VTR	16	SA(7)
——	SCANNER ON/OFF	17	SU~SA(8)
——	TRANSMIT	18	MO~SA(9)
0	SEARCH	19	MO~FR(0)
8L	+ (REMOTE CONTROLLER)	3A	-/--
8	- (REMOTE CONTROLLER)		
——	DISPLAY		

Fig. D6 Service Data Display for Service mode 4

1-3-5. Timing Chart from Mode SW to System control IC6001

System control IC6001 senses the mechanism position though the Mode SW.
Fig.D7 shows the timing for Service Mode Number 2.


《System Control IC6001》
《Mechanism》
POSITION SW1 ④
POSITION SW2 ③
POSITION SW3 ②
UNLOADING Ⓗ (58)
LOADING Ⓗ (59)
(MODE SW)
LOADING MOTOR
〈TIMING CHART〉
POSITION SW1 (IC6001-Pin4)
POSITION SW2 (IC6001-Pin3)
POSITION SW3 (IC6001-Pin2)
SERVICE DATA NUMBER*3
0 7 1 7 3 7 2 7 4 7 5 7 6
MODE
EJECT
CASSETTE DOWN
MID LOADING UNLOADING
REV REV SLOW
PLAY/REC STILL/PAUSE CUE FWD SLOW STOP 3*1
STOP*2
FF/REW

*1 :Stop 3;The Pinch Roller is on the capstan motor shaft.

*2 :Stop ;The Pinch Roller is off the capstan motor shaft.

*3 :Service Data Number;This is for Service Mode Number2.

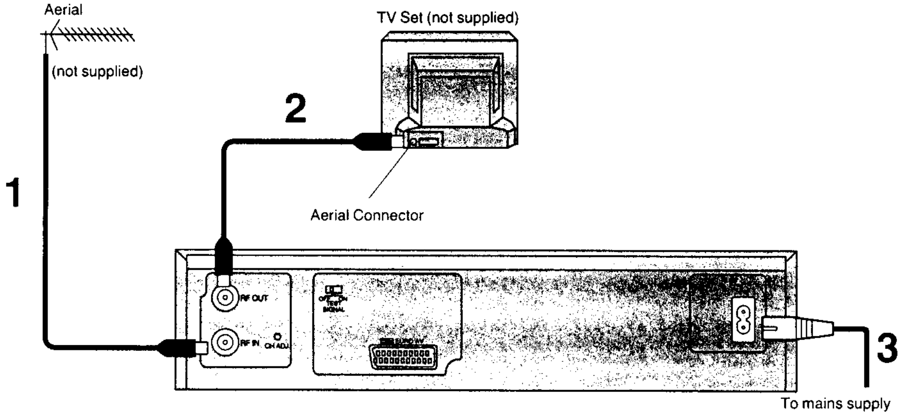
Fig. D7 Timing Chart of Mode SW

Connections

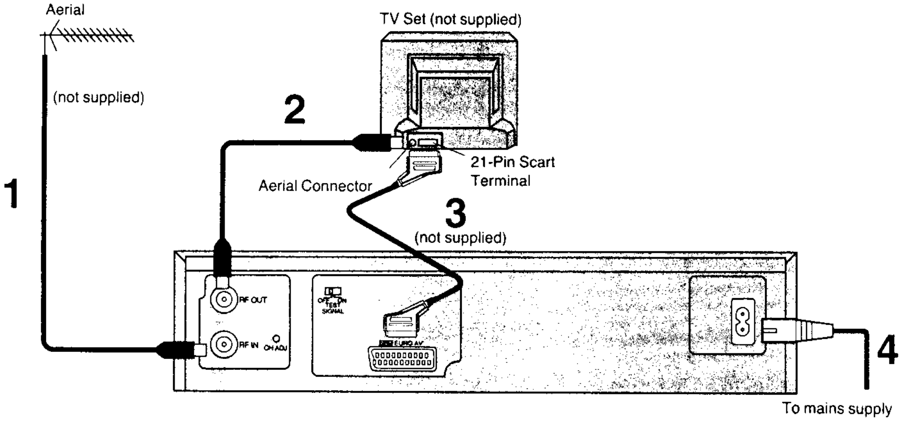
This tells you how to connect the VTR to an aerial, TV, etc.

Basic Connections

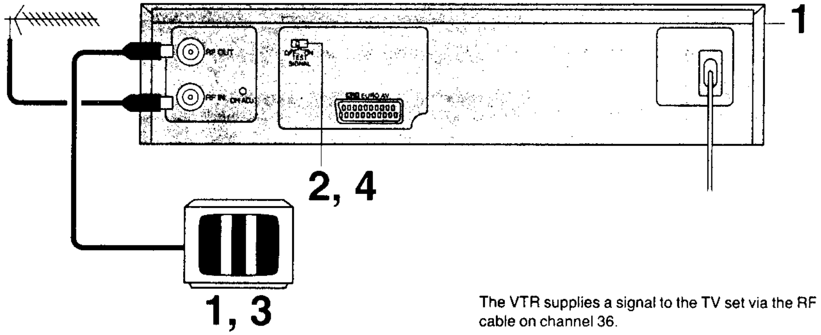
The following connections are required to record and play back the VTR through a TV set:


Aerial
(not supplied)
TV Set (not supplied)
2
1
Aerial Connector
RF OUT
RF IN
CH ADJ.
OFF ON
TEST SIGNAL
3
To mains supply

Connection to a TV Set with 21-Pin Scart Terminal


Aerial
(not supplied)
TV Set (not supplied)
2
1
Aerial Connector
21-Pin Scart Terminal
3
(not supplied)
RF OUT
RF IN
CH ADJ.
4
To mains supply

Tuning the TV to your VTR



The VTR supplies a signal to the TV set via the RF coaxial cable on channel 36.

It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.

If you have connected the VTR to the TV through the 21-pin scart terminal then you do not need to follow the procedure mentioned below.

Operations

1

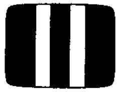
Turn on the TV and VTR.

2

OFF ON
TEST
SIGNAL

To generate a test pattern, set **TEST SIGNAL** to ON.

3



Set the TV to an unused position which you wish to use for your video playback.

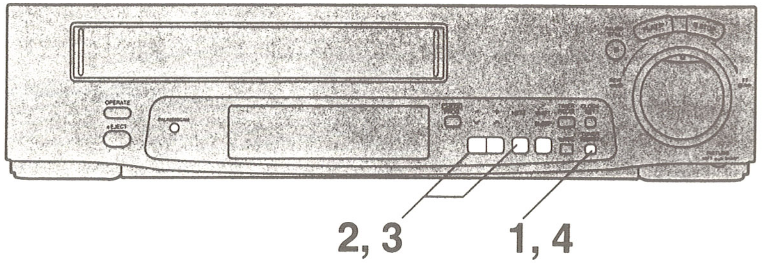
4

OFF ON
TEST
SIGNAL

Set **TEST SIGNAL** to OFF.

Note:
The test signal is transmitted on video channel 36.
If you are encountering interference from a TV broadcast on this video channel, you may readjust to another free channel (32–40) by using the **CH ADJ.** screw which is located on the rear of the VTR.
Please note that if the **CH ADJ.** screw is used then you will have to retune your TV to the test signal as in item 2 to 4 above.

Storing TV Broadcasts into your VTR

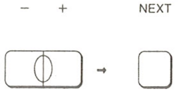
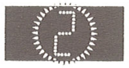
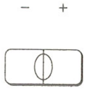
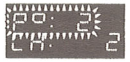


Introduction

The VTR is fitted with its own tuner (just like a normal TV set) and can be pre-set to receive up to 99 TV broadcast stations.

Preparation

- Confirm that the TV is on and the VTR viewing channel is selected.
- Turn on the VTR and select the programme position except A1.

	Operations	Display Symbols	
1	TUNER PRESET		Keep **TUNER PRESET** pressed until a bleep sound is heard.
2			Select the programme position, then press **NEXT**.
3			Search for the required TV station. ● Press **PAL/MESECAM** to select SECAM system so that MESECAM indicator is lit. ● Press **NEXT** and repeat steps 2–3 for each programme position you want to tune to a station.
4	TUNER PRESET		Press **TUNER PRESET** twice.

Fine Tuning Procedure

1 Press **TUNER PRESET** until a bleep sound is heard, and then press again.

2 Press **NEXT**.

3 Press + or – to obtain the best tuning condition.
- "AFC" Indicator disappears.
- To return the tuning to its former state, press **SHIFT**.

4 Press **TUNER PRESET**.

Blanking of Unoccupied Programme Positions

1 Press **TUNER PRESET** until a bleep sound is heard.

2 Select a programme position which you do not want to tune to a TV station, by using + or –.

3 Press **SHIFT**. ("– –" is displayed.)
- Repeat steps 2 and 3 for other unoccupied programme positions to skip during the selection of the programme positions.
- To cancel the blanking of a programme position, select that programme position on the VTR and then press **SHIFT**.

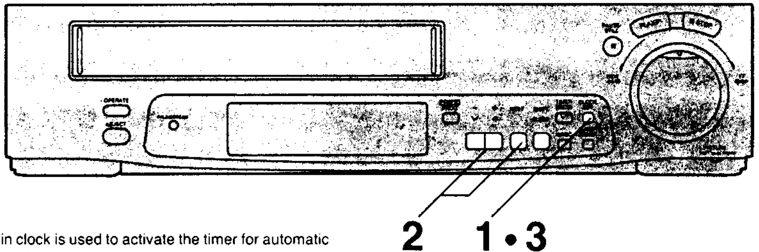
4 Press **TUNER PRESET** twice.

Channel Plan

Channel Indication	TV Channel	
	Germany/Italy	Other Countries
2–12	*E2–E12	E2–E12
13–20	A–H (Only Italy)	——
21–69	21–69	21–69
74–76	——	S1–S3
80–82	——	M1–M3
83–89	S4–S10	M4–M10
90–99	S11–S20	U1–U10
121–141	S21–S41 (Only Italy)	S21–S41

*In Italy: H1...(11), H2...(12)

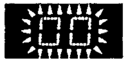
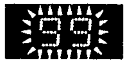
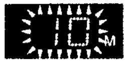
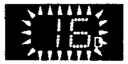
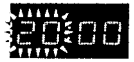
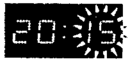
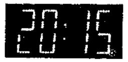
Setting the Clock of the VTR



The built-in clock is used to activate the timer for automatic recording and must be set to the correct time.
The built-in digital clock employs the 24-hour system.

Preparation
Turn on the VTR.

For Example:
Date; 16th, October, 1999
Time; 20:15

Operations		Display Symbols	
1	CLOCK SET		Keep **CLOCK SET** pressed until a bleep sound is heard.
2	Set each item by pressing + or – and **NEXT**.		
	– +		Set **Year** "99".
			Set **Month** "10".
	↓		Set **Date** "16".
	NEXT		Set **Hour** "20".
			Set **Minute** "15". •There is no need to press **NEXT**.
3	CLOCK SET		Press **CLOCK SET**. •The clock will start.

Note:
The clock operates for at least 60 minutes by its backup system in the event of power failure.

Time Reset Function

If the clock is less than two minutes slow or fast, it can easily be reset to the proper time.

For example: Resetting the clock to 12:00.00.

1 Press **CLOCK SET** at any time between 11:58.00 and 12:01.59 until the beep sound is heard.
2 Press **CLOCK SET** again as soon as you hear the 12:00.00 time signal.

Summer Time Function

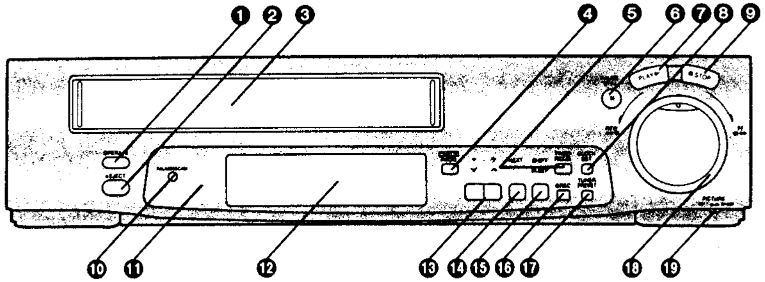
Setting to summer time

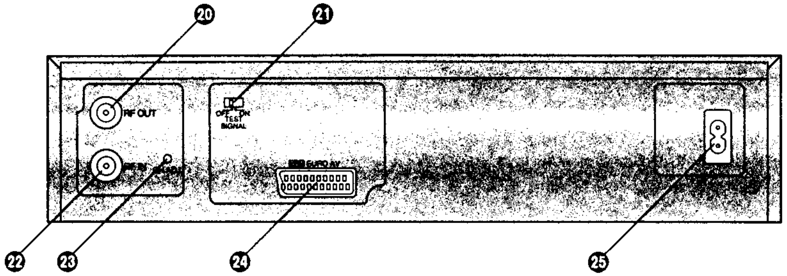
1 Keep **CLOCK SET** pressed until the beep sound is heard.
2 Press **SHIFT**.
  - The time on the clock is advanced by 1 hour.
3 Press **CLOCK SET**.

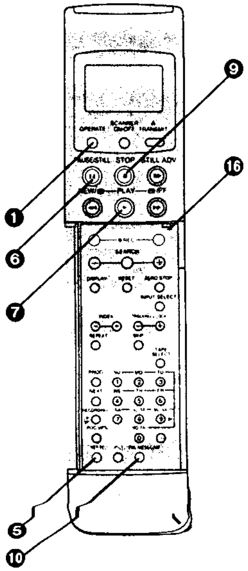
Returning from summer time to standard time

1 Keep **CLOCK SET** pressed until the beep sound is heard.
2 Press **SHIFT** twice.
  - The time on the clock is set back by 1 hour.
3 Press **CLOCK SET**.

Controls and Connection Sockets







① **OPERATE**
To turn the VTR on and off.

② **EJECT**
To eject a video cassette.

③ **Cassette Compartment**
Insert a video cassette here.

④ **CHECK/PROG**
To select a timer programme number.
"1, 2, 3… or 8" is lit.
To display details of preset timer recording.

⑤ **TIMER REC**
To turn the timer recording function on and off.
🕒 is lit or not lit.
Once activating timer recording function, the normal VTR operation is not possible unless this button is set to off.

⑥ **PAUSE/STILL**
During playback: Still picture.
During recording: To Interrupt recording.

⑦ **PLAY**
To start playback. "▷" is lit.

⑧ **CLOCK SET**
To set the time.

⑨ **STOP**
To stop any playback or recording.

⑩ **PAL/MESECAM**
Set according to the colour TV system used during recording and playback.
When the MESECAM Indicator is lit, the MESECAM system is selected.

⑪ **Infra-red Remote Control Receiver Window**

⑫ **Display**

⑬ ∨ ∧/− +
To select the required programme position (TV station).
To set the clock and timer recording.

⑭ **NEXT**
To proceed to the next item during setting procedure.

⑮ **SLEEP/SHIFT**
To set the time to turn off the VTR automatically.
To blank unoccupied programme position.

⑯ **REC**
To start a recording.

⑰ **TUNER PRESET**
To initiate TV station settings for the tuner.

⑱ **Shuttle Ring**
In the stop mode: To rewind or fast forward the tape.
In the playback mode:
To search picture backward or forward.
In the still playback mode:
To adjust playback speed backward or forward.
In the rewind or fast forward mode:
To obtain high speed picture.

⑲ **PICTURE**
To make picture sharper (SHARP) or softer (SOFT).

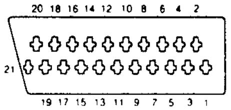
⑳ **RF OUT**
To connect to the aerial terminal on a TV set.

㉑ **TEST SIGNAL**
The test signal is transmitted on channel 36.

㉒ **RF IN**
To connect to the external aerial.

㉓ **CH ADJ.**
To adjust the RF transmitting channel 32–40.

㉔ **EURO AV (AV1)**
This 21-pin scart terminal carries input and output signals for both picture and sound. TV sets equipped with a similar socket can be connected here.

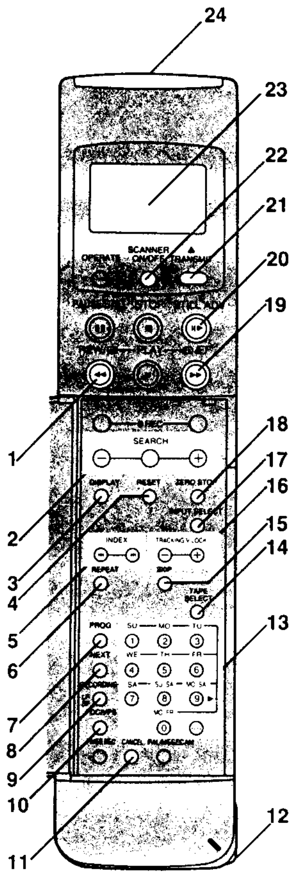


1	AUDIO OUTPUT	8	SWITCHING VOLTAGE
2	AUDIO INPUT	17	VIDEO GROUND
3	AUDIO OUTPUT	19	VIDEO OUTPUT
4	AUDIO GROUND	20	VIDEO INPUT
6	AUDIO INPUT	21	GROUND

No connection; 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 18

㉕ **AC IN~**
To connect to the main power supply.

Infra-red Remote Controller



1 REW (REWIND)

In the stop mode:	To rewind the tape.
In the playback mode:	To search backward.
In the rewind mode:	To obtain high speed picture.

"◁◁" is lit.

2 SEARCH
To adjust the playback speed backward or forward.

3 DISPLAY
To change the indication on the VTR Display.

→Clock→Counter→Remaining Tape Time—┐

4 RESET
To reset the tape counter (elapsed time) to "0:00.00".
- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

5 INDEX
For the index search function.

6 REPEAT
For the repeat playback function.

7 PROG
For timer recording by using the remote controller.

8 NEXT
To proceed to the next item during setting procedure.

9 RECORDING SP/LP
No function.

10 PDC/VPS
To turn the VPS or PDC function on and off.

11 CANCEL
To cancel the settings made for a timer recording.

12 Bar Code Reading Section
After the Bar Code Reader is turned on, the tip lights in red.

13 Programme Position Selector Buttons
- To select the programme positions.

MO-SA
9: ⑨▶
SU MO-SA
19: (-/--)→①→⑨▶

- To programme a timer recording.

14 TAPE SELECT
To set the cassette tape length in order to obtain correct indication of the remaining tape time.
E195: For E30, -60, -80, -120, -180 and -195 tapes.
E240: For E240 tape.
E260: For E260 tape.

15 SKIP
To start cue playback in 30 seconds interval during playback.
- Each press gives a 30 seconds time span up to 4 minutes.

16 TRACKING/V-LOCK
For manual tracking adjustment
The + and − buttons are used to adjust the tracking when, for example, noise bars on the picture are better removed manually than by the automatic digital tracking control. After making a manual adjustment, press both buttons together to return to automatic digital tracking control.

For slow tracking adjustment
When noise bars appear during Still, Still Advance or Slow playback, switch over to slow playback and adjust with the "+" or "−" button to reduce the noise bars.

For vertical locking adjustment
Use the + and − buttons to minimize any vertical jitter during still-picture playback.

17 INPUT SELECT
To select the "A1" external recording source.

18 ZERO STOP
For the zero stop function.

19 FF (FAST FORWARD)

In the stop mode:	To fast forward the tape.
In the playback mode:	To search forward.
In the fast forward mode:	To obtain high speed picture.

"▷▷" is lit.

20 STILL ADV
To advance a still picture during still playback.

21 TRANSMIT
To transmit the data that has been set on the remote controller to the VTR.

22 SCANNER ON/OFF
To turn the Bar Code Reader on and off.

23 Display

24 Infra-red Transmitter
The programming data are transmitted from here to the VTR.

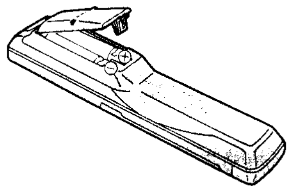
Power source for the remote controller

The remote controller is powered by 2 "UM3" or "R6" size batteries. The life of the batteries is about one year, although this depends on the frequency of use.
- If the display flickers when a button on the remote controller is pressed, please replace the batteries with new ones.

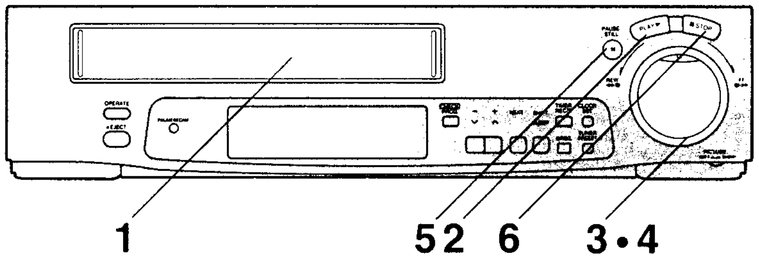
Precautions for battery replacement

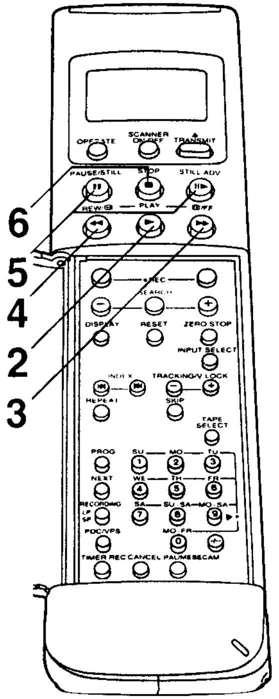
- Load the new batteries with their polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to the batteries, or an internal short-circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

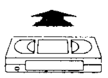
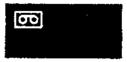
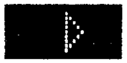
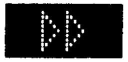
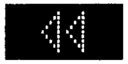
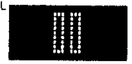
Loading the batteries



Playback





Operations	Display Symbols	
1 		Insert a recorded cassette tape.
2 PLAY ⊙		Start viewing the picture.
3 ⊚/FF		Search forward by tapping **FF**. •To change back to normal playback, press **PLAY**.
4 REW/⊚		Search backward by tapping **REW**. •To change back to normal playback, press **PLAY**.
5 PAUSE/STILL ⊙ ↓ STILL ADV ⊙		View a still picture. •To advance one frame of the still picture, press **STILL ADV**. •To continue the normal playback, press **PLAY** or **PAUSE/STILL**.
6 STOP ⊙		Stop viewing the picture.

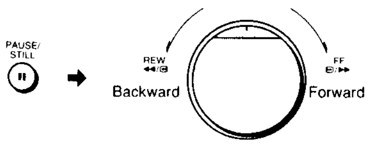
Other Playback Functions

To change the playback speed

Using Shuttle Ring:

1 Press **PAUSE/STILL**.

2 Rotate Shuttle Ring.



Using Remote Controller:

1 Press **SEARCH**.

2 Press + or − repeatedly.
+: To increase the playback speed forward
−: To increase the playback speed backward

SEARCH

⊖—○—⊕

To obtain high speed picture during fast forward or rewind

Keep **FF** pressed during fast forward.
Keep **REW** pressed during rewind.

⊚/FF ⊙ REW/⊚ ⊙

•The same operation can also be performed by turning the Shuttle Ring.

To skip scene

Press **SKIP** during playback.

SKIP

○

•The following 30 seconds will be skipped.
•Each press gives a 30 seconds time span up to 4 minutes.

To return to a specified scene

1 Press **RESET** to set the counter to 0:00.00.

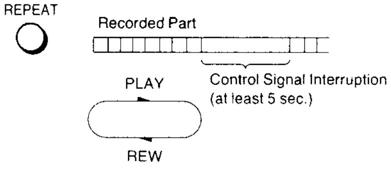
2 After playback, press **ZERO STOP** in the stop mode.

RESET ○ ZERO STOP ○

•The tape will be rewound or fast forwarded to 0:00.00.

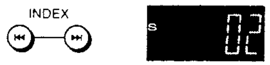
To playback a recorded part repeatedly

Press **REPEAT** in the stop mode.



To find the beginning of each recording

For example:
Searching for the 2nd recorded segment in the forward direction.
Press **INDEX ►►I** twice.



•After finding the specific recorded segment, playback starts automatically.
•For the reverse direction, press **INDEX I◄◄**.
•Up to 20 programmes can be searched for in both directions.

Recording Index Signals

Index signals are recorded in following cases.
WRITE indicator appears on the Display.
•When a recording is started by pressing **REC**.
•When **REC** is pressed during recording.
•When timer recording is activated.

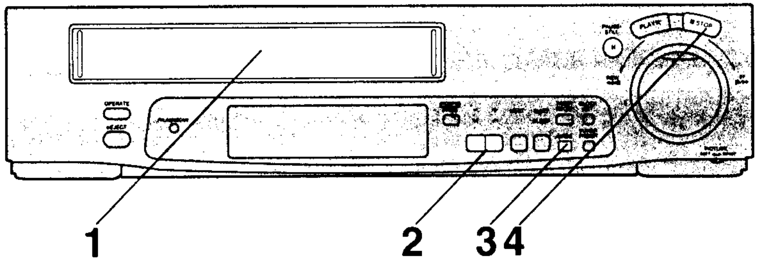
Notes:

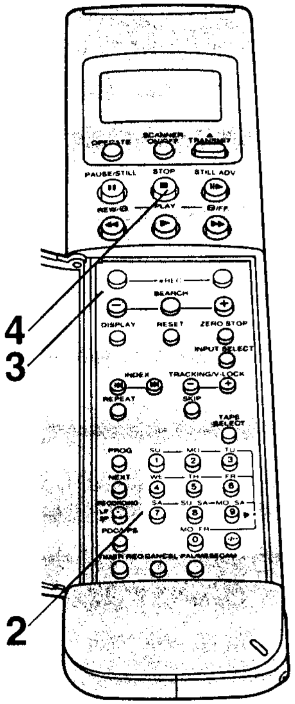
•During Playback, set **PAL/MESECAM**.

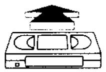
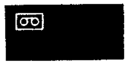
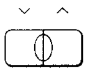
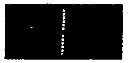
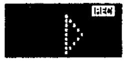
PAL:	When playing back a tape recorded in the PAL system.
MESECAM:	When playing back a tape recorded in the MESECAM system. MESECAM Indicator lights up.

•Cue, review or slow playback will be automatically released after 10 minutes, and still playback after 5 minutes.

On-the-spot Recording

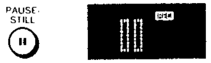




Operations	Display Symbols	
1 		Insert a cassette tape. • If it has already been inserted, press **OPERATE** to turn the VTR on.
2 		Select TV station.
3		Start recording.
4		Stop recording.

To interrupt recording

Press **PAUSE/STILL** during recording.
Press again to continue recording.



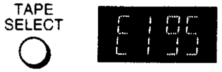
To record one TV programme while viewing another programme

1 Refer to the on-the-spot recording operations steps 1 to 3.

2 Select the TV programme on your TV set you wish to view at the present time.

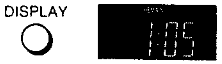
To display the approximate remaining tape time

1 Press **TAPE SELECT** to select the corresponding cassette tape length.



E195: For E30, -60, -80, -120, -180 and -195 tapes.
E240: For E240 tape.
E260: For E260 tape.

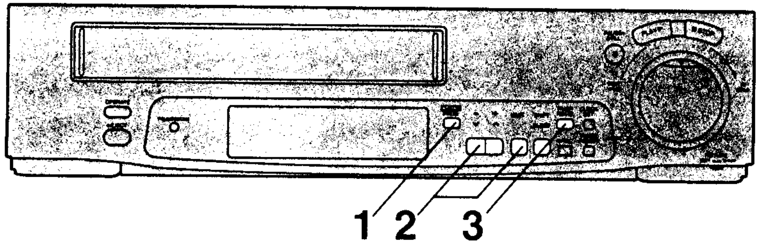
2 Press **DISPLAY**.



Notes:

- When a video cassette with a broken off tab is inserted, the "▭" indication will flash to indicate that recording is not possible.
- The recording pause mode will be automatically released after 5 minutes, and be back to the stop mode.

Timer Recording



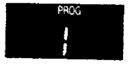
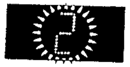
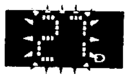
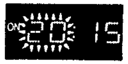
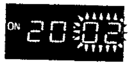
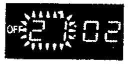
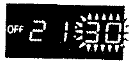
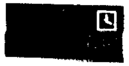
Up to 8 timer programmes can be recorded up to one month in advance by setting the timer, including daily and weekly programmes.

Preparation

Insert a cassette tape with an intact erasure prevention tab.

For Example:

Timer programme number;	1
Programme position (channel);	2
Date;	27th, October
Starting time;	20:02
Ending time;	21:30
(present date; 16th October)	

Operations		Display Symbols	
1	CHECK PROG		Select **Timer programme number** "1".
2	Set each item by pressing + or – and **NEXT**.		
	– +		Set **Programme position** (channel) "2".
			Set **Date** "27". •For daily and weekly recording, see next page.
			Set **Starting time** (hour) "20".
	↓		Set **Starting time** (minute) "02".
	NEXT		Set **Ending time** (hour) "21".
			Set **Ending time** (minute) "30". •There is no need to press **NEXT**.
3	TIMER REC		To activate timer recording, press **TIMER REC.**

Setting for Daily and Weekly Timer Recording

In the Date setting step, press – repeatedly until the desired day(days) is displayed.

Daily recording From Sundy to Saturday	SU MO TU WE TH FR SA
From Monday to Saturday	MO TU WE TH FR SA
From Monday to Friday	MO TU WE TH FR
Weekly recording For example, Sunday	SU

Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the Euro AV socket, select the A1 indicator for the programme position.

Setting other Programmes in Succession

Repeat steps 1 and 2.

Checking a Timer Programme

Select the timer programme number to be checked by pressing **CHECK/PROG**.

Cancelling a Timer Programme

1 Release from the standby mode by pressing **TIMER REC**.

2 Select the timer programme number to be canceled by pressing **CHECK/PROG**.

3 Press + and – simultaneously for more than 3 seconds.

VPS (Video Programme System)/PDC (Programme Delivery Control)

The Video Programme System (VPS) or the Programme Delivery Control (PDC) is a very convenient system which assures that the TV programmes you have programmed for timer recording will be recorded exactly from beginning to end, even if the actual broadcasting time differs from the scheduled time due to delayed start or extension of the programme duration. Also, if a programme is interrupted and, for example, some special news are inserted, the recording will also be interrupted automatically and resumed when the programme continues.

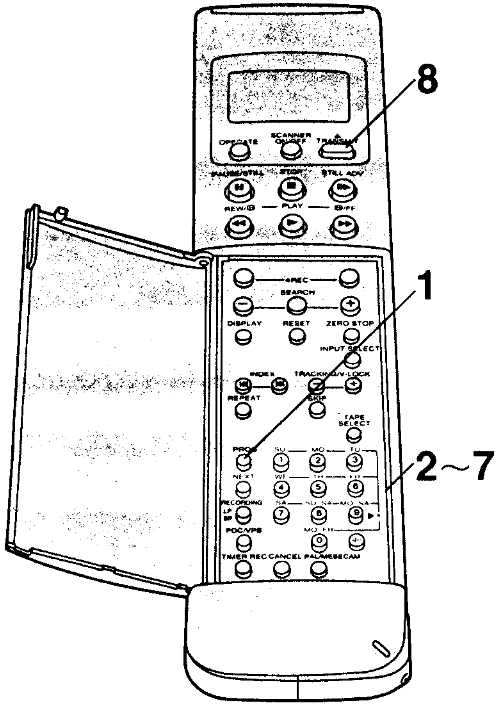
- Press **SHIFT** in step 2 to cancel the VPS (PDC) function.
- If the actual broadcasting times of timer recordings overlap [regardless of whether they are VPS (PDC)-controlled], the recording that starts first has always priority, and the recording of the later beginning programme will start only after the first timer recording has finished.
- When the VPS (PDC) signal drops out because the broadcast signal is weak, or when a broadcasting station does not transmit a regular VPS (PDC) signal, the timer recording will be performed in the normal mode (without VPS/PDC) even if it was programmed for VPS (PDC). In this case, even if the timer recording is performed, whatever has been programmed will not be cancelled at that particular time but at 4 a.m. on the following day.
- Model NV-SD30EO is not equipped with VPS (PDC) function. The VPS (PDC) function becomes operative when the VTR is equipped with the optional VPS (PDC) decoder. Consult your authorized video dealer.

Note:

If a timer recording is not performed to the end (due to insufficient tape or cancellation by the user), the programmed timer recording data will be cancelled from the memory by 4 a.m. two days later.

However, if the Timer Record Function is activated at that time, the programmed timer recording data will be cancelled at 4 a.m. the next day.

Using the Remote Controller


8
1
2~7
OPERATE
SCANNER
TRANSMIT
PAUSE/STILL
STOP
STILL ADV
REW
PLAY
FF
REC
SEARCH
DISPLAY
RESET
ZERO STOP
INPUT SELECT
INDEX
TRACKING/V-LOCK
REPEAT
SKIP
TAPE SELECT
PROG
NEXT
RECORDING
PDC/VPS
TIMER REC
CANCEL
PAL/MESECAM

For Example:

Programme position (channel);	27
Date;	3rd, November
Starting time;	20:02
Ending time;	21:30
(Present date; 16th, October)	

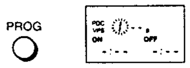
Note:
If no operation is performed on the remote controller for more than 60 seconds, the Display turns off.

Preparation

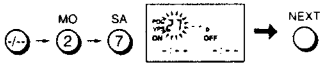
Insert a cassette tape with an intact erasure prevention tab.

Operations

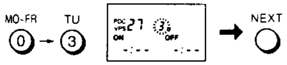
1 Press **PROG**.


PROG
PDC
VPS
ON
OFF

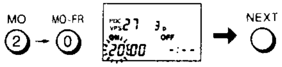
2 Enter **Programme position** "27", then press **NEXT**.


MO
SA
-/--
2
7
NEXT

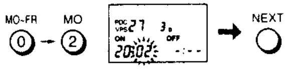
3 Enter **Date** "3", then press **NEXT**.


MO-FR
TU
0
3
27
NEXT

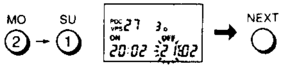
4 Enter **Starting time** (hour) "20", then press **NEXT**.


MO
MO-FR
2
0
27
20:00
NEXT

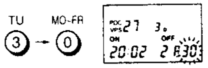
5 Enter **Starting time** (minute) "02", then press **NEXT**.


MO-FR
MO
0
2
27
20:02
NEXT

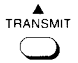
6 Enter **Ending time** (hour) "21", then press **NEXT**.


MO
SU
2
1
27
20:02
21:02
NEXT

7 Enter **Ending time** (minute) "30".


TU
MO-FR
3
0
27
20:02
21:30

8 Press **TRANSMIT**.



The transmitted data appears on the display of the VTR and a repeated bleep confirms the reception.

Daily Timer Recording

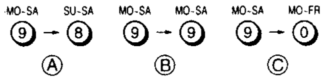
For this timer function, several groups of days can be selected.

Ⓐ Daily recording from Sunday to Saturday

Ⓑ Daily recording from Monday to Saturday

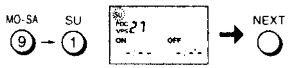
Ⓒ Daily recording from Monday to Friday

Press the following numeric button within 5 seconds to select the group of days in step 3.


MO-SA
SU-SA
9
8
Ⓐ
MO-SA
MO-SA
9
9
Ⓑ
MO-SA
MO-FR
9
0
Ⓒ

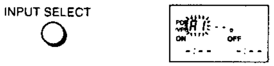
Weekly Timer Recording

Press the 9 button and then the numeric button within 5 seconds in step 3.
For example, SU (Sunday)


MO-SA
SU
9
1
NEXT

Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the Euro AV socket, press **INPUT SELECT** to select the A1 indicator for the programme position.


INPUT SELECT
A1

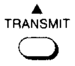
Turning VPS (PDC) function on and off

Press **PDC/VPS** in any of steps 2–7.

Checking a Timer Programme

- The VTR must be turned on, or the timer recording indicator "⌚" is lit.
- Make sure that the display of the Remote Controller is not on.

Press **TRANSMIT** repeatedly until the desired timer programme number is displayed.



Cancelling a Timer Programme

1 Press **TRANSMIT** repeatedly until the desired timer programme number is displayed.

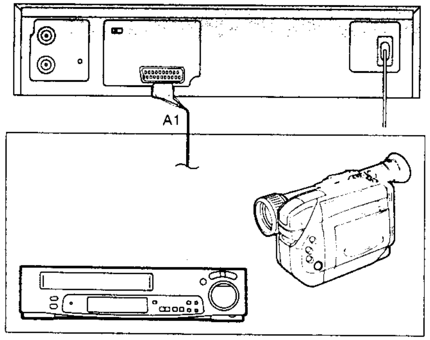
2 Press **CANCEL**.

Editing

Assembly Editing

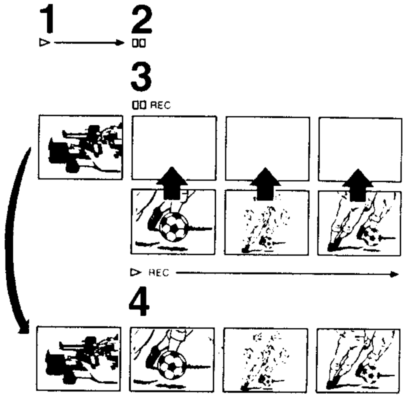
This function can be used to make up an edited tape from other recordings or video sources.

This enables you to record a new segment immediately after a previously recorded segment.



Preparation

- Connect a movie camera or another VTR to this VTR as shown.
- Insert a recorded cassette tape with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1.
- Set **PAL/MESECAM** according to the colour TV system of the video source.
  PAL: When receiving PAL signals
  MESECAM: When receiving SECAM signals
  The MESECAM Indicator lights up.



Operations

1 Search for the end of the previous recording.

PLAY

2 Press **PAUSE/STILL** at the end point.

PAUSE/STILL

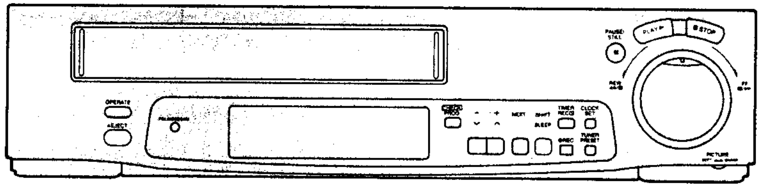
3 Set for the new recording by pressing **REC**.

●REC

4 Start the new recording by pressing **PAUSE/STILL** again.

PAUSE STILL

Other Functions



Automatic VTR off at time setting

Press **SLEEP** for the desired time.

SLEEP
OFF
0:30

- Each press gives a 30 minutes time span up to 9 hours.
- To cancel the setting time, press **SLEEP** repeatedly to set 0:00.

Other Automatic Functions

Automatic Playback

When a cassette without an erasure prevention tab is inserted, the VTR starts playback automatically.

VTR-off Playback

When the VTR is off, an inserted cassette can be played back by pressing **PLAY**.

Automatic Rewinding

When the tape reaches its end during recording (except for timer recording) or playback, it will automatically be rewound to the beginning.

Automatic Switching Off and Ejection

When the VTR is switched off, an inserted cassette can be ejected simply by pressing **EJECT**. The VTR will eject the cassette and automatically turn itself off again.

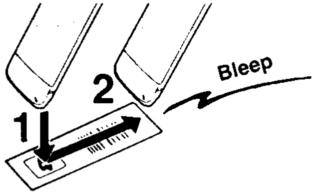
Scanner Preparation

Operating the Remote Controller

Press **SCANNER ON/OFF** to turn it on.

If the remote controller is not operated within 60 seconds (within 4 minutes when setting the clock time), the lamp and Display turns off.

How to use the Scanner



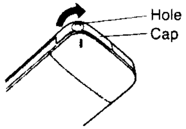
When the Bar Codes Cannot be Read

Although the lamp in the tip of the Bar Code Reading Section lights up:

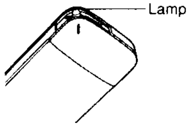
- No figures appear in the Display
- No bleep sounds is heard;

The tip of the Bar Code Reading Section is probably clogged with dirt.

1 Remove the cap.



2 Gently wipe the tip of the lamp with a soft cloth.



Setting the Clock

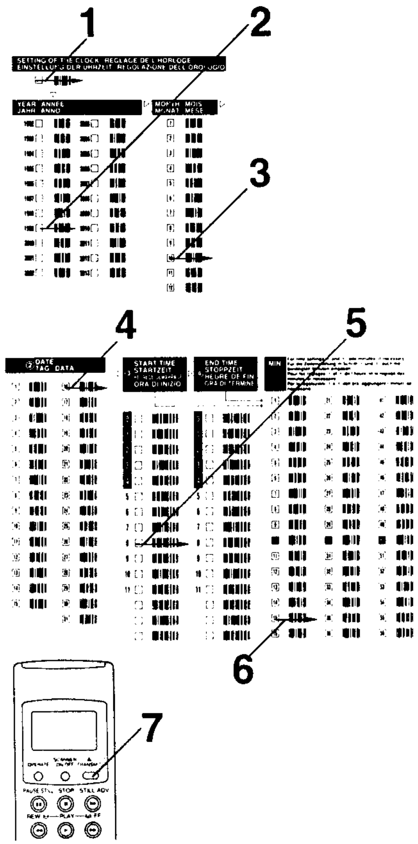
Read in the following data successively by tracing bar codes 1 to 6 on the programming sheet.

Preparation

Turn on the VTR and the remote controller.

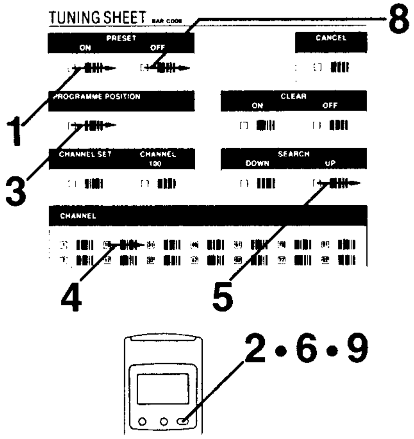
For Example:

Date; 16th, October 1999
Time; 8:15



Storing TV Broadcasts

Read in the required data successively by tracing the bar codes on page 91.



Preparation

Turn on the VTR and the Remote Controller.

Operations

1 Trace the bar code "PRESET ON".
- If no operations are performed within more than 4 minutes, the Digital Scanner will automatically turn itself off.

2 Press **TRANSMIT** to transmit to the VTR.

3 Trace the bar code "PROGRAMME POSITION".

4 Trace the bar code for the programme position (channel) that you want to tune to a station.

5 Trace the bar code "SEARCH UP" or "SEARCH DOWN".

6 Press **TRANSMIT** to transmit to the VTR.
- The channel will be tuned automatically.
- At every push of the button, the next channel will be tuned.

7 Press **PAL/MESECAM** to select SECAM system so that MESECAM indicator is lit on the VTR Display.

8 Trace the bar code "PRESET OFF".

9 Press **TRANSMIT**.

Notes:

- If you make a mistake in the above operation steps, trace the bar code "CANCEL" and start again from step 4.
- When setting more than 2 channels, repeat the steps 3–7 above.

Setting the Tuner Directly

Perform the operation steps 1–4.

5 Trace the bar code "CHANNEL SET".

6 Trace the number of the channel for the TV station that you want to tune.
- When tuning a TV station in the hyperband, trace the bar code "CHANNEL 100~" and then trace the bar code "CHANNEL".

Press **TRANSMIT** to transmit to the VTR.

Perform the operation steps 7–9.

If you want to tune further TV stations, repeat the steps 3 to 7.

Blanking of Unoccupied Programme Positions

Perform the operation steps 1–3.

4 Trace the bar code for the programme position that you want to blank so that it will be skipped during Up/Down selection of the programme position.

5 Trace the bar code "CLEAR ON".

6 Press **TRANSMIT** to transmit to the VTR.

7 Trace the bar code "PRESET OFF".

8 Press **TRANSMIT**.

Cancelling the Clear Function (Blanking)

Perform the operation steps 1–3 above.

4 Trace the bar code for the programme position that has been blanked until now.

5 Trace the bar code "CLEAR OFF".

Perform the operation steps 6–8 above.

- To programme a timer recording or the set the clock time immediately after setting the tuner in the VTR by using the Remote Controller, first press **SCANNER ON/OFF** on the Remote Controller to turn it off, before starting the above operation.

Timer Recording

Successively scan the data for the programme position (channel), day, starting time and ending time by tracing bar codes 1 to 6 on the programming sheet.

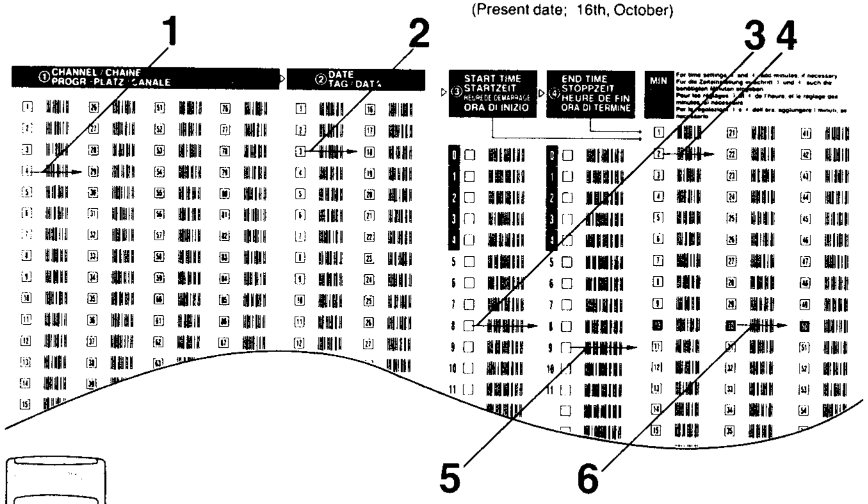
Preparation

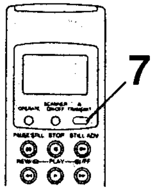
Turn on the remote controller.

For Example:

Programme position (channel);	4
Date;	3rd, November
Starting time;	8:02
Ending time;	9:30

(Present date; 16th, October)


1
2
3 4
① CHANNEL / CHAINE PROGR. PLATZ CANALE
② DATE TAG DATA
③ START TIME STARTZEIT HEURE DE DEMARRAGE ORA DI INIZIO
④ END TIME STOPPZEIT HEURE DE FIN ORA DI TERMINE
MIN
5
6



Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the Euro AV socket, the A1 bar code in the CHANNEL column must be traced in the step 1.

AV1

Daily and Weekly Timer Recording

In the step 2, trace the bar code for:

Daily

Sunday to Saturday	(SU~SA) ☐
Monday to Friday	(MO~FR) ☐
Monday to Saturday	(MO~SA) ☐

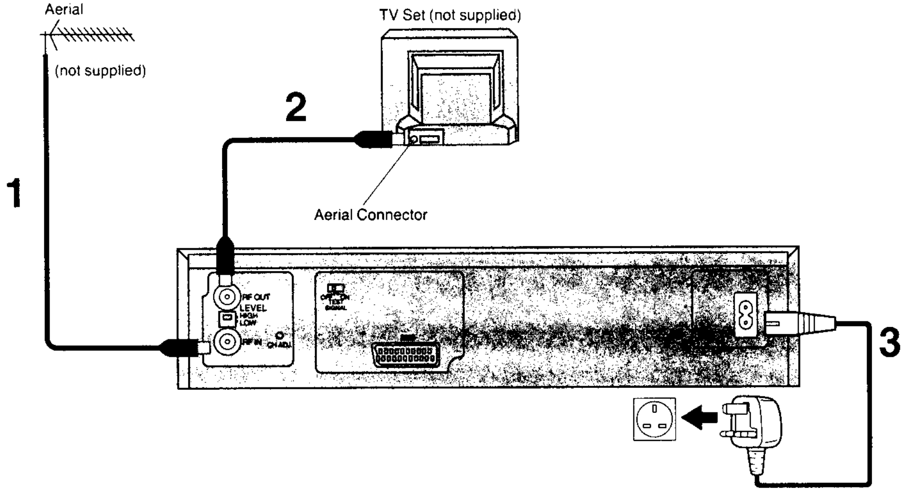
Weekly

For example; Sunday	EVERYWEEK WÖCHENTLICH HEBDOMADAIRE SETTIMANALE SU

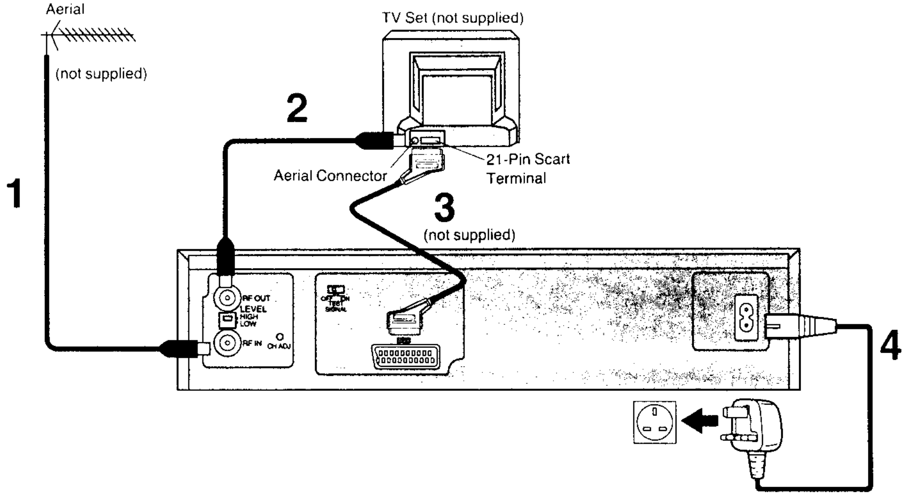
Connections

Basic Connections

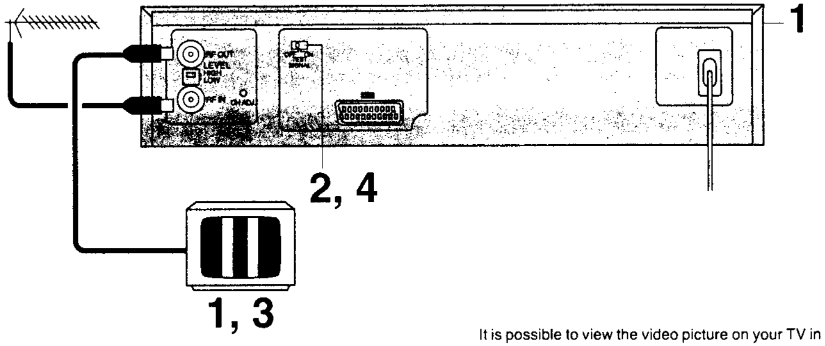
The following connections are required to record and play back the VTR through a TV set:


Aerial
(not supplied)
TV Set (not supplied)
2
1
Aerial Connector
RF OUT
LEVEL
HIGH
LOW
RF IN
CH ADJ.
3

Connection to a TV Set with 21-Pin Scart Terminal


Aerial
(not supplied)
TV Set (not supplied)
2
1
Aerial Connector
21-Pin Scart Terminal
3
(not supplied)
RF OUT
LEVEL
HIGH
LOW
RF IN
CH ADJ.
4

Tuning the TV to your VTR


1
2, 4
1, 3

It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.

If you have connected the VTR to the TV through the 21-pin scart terminal, then you do not need to follow the procedure mentioned below.

Operations

1

OPERATE

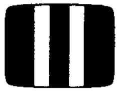
Turn on the TV and VTR.

2

OFF
ON
TEST
SIGNAL

To generate a test pattern, set **TEST SIGNAL** to ON.

3



Set the TV to an unused position which you wish to use for your video playback.
- Tune the TV until the test pattern appears on the screen.

4

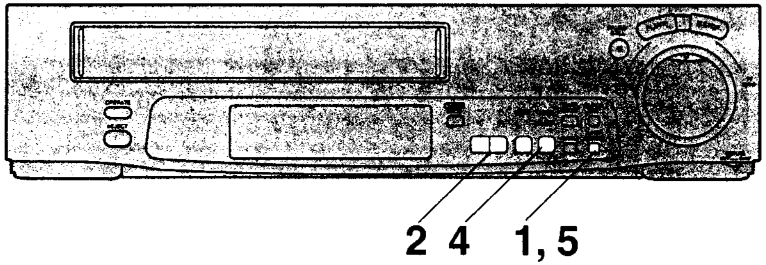
OFF
ON
TEST
SIGNAL

Set **TEST SIGNAL** to OFF.

Note:
The test signal is transmitted on channel 36 of the UK broadcasting channels. If you are encountering interference from another broadcast on the video channel, you may readjust to a free channel by using the **CH ADJ.** screw which is located on the rear of the VTR.

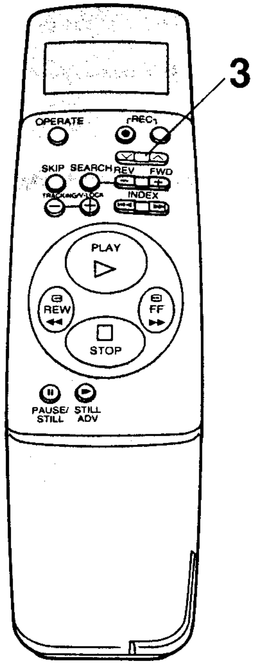
Please note that if the **CH ADJ.** screw is used then you will have to retune your TV to the test signal as in item 2 to 4 above.

Storing TV Broadcasts into your VTR



Introduction

The VTR is fitted with its own tuner (just like a normal TV set) and can be pre-set to receive up to 99 TV broadcast stations.

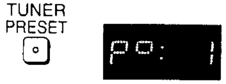


Preparation

- Confirm that the TV is on and the VTR viewing channel is selected.
- Turn on the VTR and select the programme position except A1.
- Install the batteries in the remote controller. See page 20.

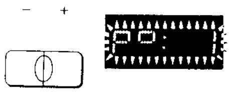
Operations **Display Symbols**

1



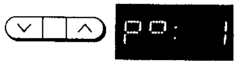
Keep **TUNER PRESET** pressed until a bleep sound is heard.

2



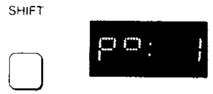
Search for the TV Station.
- If the required station is not displayed, press + or − again.

3



Select the programme position.

4



Memorize the broadcast station.
- To memorize the other stations, repeat steps 2 to 4.

5

TUNER PRESET

Press **TUNER PRESET**.

Note:

- While tuning, your video may lock onto several weak stations from distant transmitters. Should this occur press + or − again until a strong station is received.

Channel Plan

It is recommended that you set the Programme Positions on the VTR to match the remote controller setting, so when using the Video Plus+ programming the correct broadcast station is recorded.
The table below shows the correct setting.

Programme position	TV station
1	BBC1
2	BBC2
3	ITV
4	Channel 4
A1, 5~20	*Satellite input

*Satellite input
To receive satellite stations, the satellite receiver must be connected to the VTR and programme position must be set depending on the type of the connection made.

A1: When the satellite receiver is connected to the AV1 socket.
5~20: When the satellite receiver is connected by means of the RF coaxial cable. Follow the tuning procedure on page 10.
- A2: No function.

Tuning Procedure on the VTR

Stations can be tuned in by following the steps given below.

1 Press **TUNER PRESET** until a bleep sound is heard.

2 Search for the TV station by pressing + or −, and then press **NEXT**.

3 Select programme position by using + or −.

4 Press **SHIFT** to memorize the broadcast station.
- To memorize the other stations, press **NEXT** and then repeat steps 2 to 4.

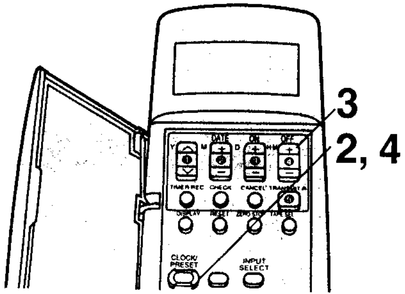
5 Press **TUNER PRESET**.

Setting the Satellite Position on the Remote Controller

The remote controller must be set to the selected programme position for the satellite receiver, in order to record satellite stations using Video Plus+ programming.

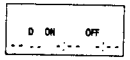
Note:
A satellite receiver cannot be operated using this unit's remote controller.

Preparation
Set the clock of the remote controller first. See page 12.

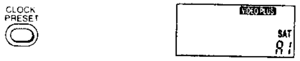


Operations **Display Symbols**

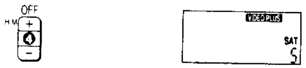
1 Open the door of the remote controller.



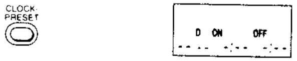
2 Keep **CLOCK/PRESET** pressed for 2 seconds or more and then press it again.



3 Select A1 or 5~20.



4 Press **CLOCK/PRESET**.



5 Close the door of the remote controller.

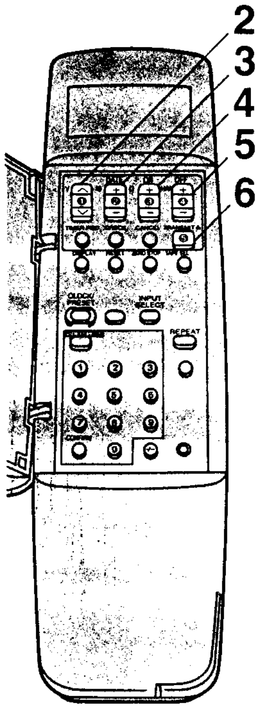
Setting the Clock of the VTR

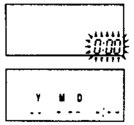
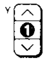
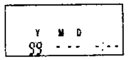
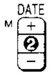
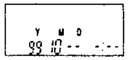
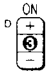
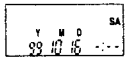
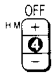
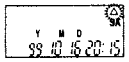
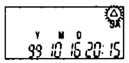
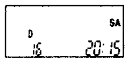
By setting the time on the remote controller's clock and then by transmitting this setting to the VTR, the clocks on both the remote controller and VTR display the same time.
The built-in digital clock employs the 24-hour system.

Preparation

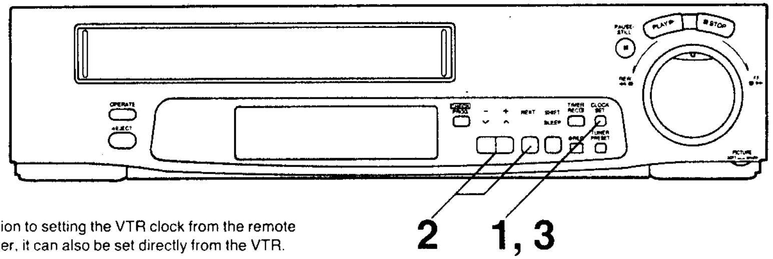
- Turn on the VTR.
- Install the batteries in the remote controller. See page 20.

For Example:
Date; 16th, October, 1999
Time; 20:15



Operations	Display Symbols	
1		Open the door of the remote controller.
2 Y 		Set **Year** "99".
3 DATE M 		Set **Month** "10".
4 ON D 		Set **Date** "16".
5 OFF H M 		Set **Time** "20:15". • When it is kept pressed, the indication changes in 30-minute steps.
6 TRANSMIT ▲		Press **TRANSMIT**.
7		Close the door of the remote controller.

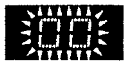
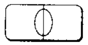
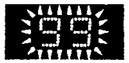
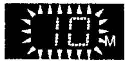
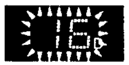
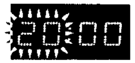
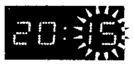
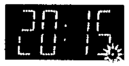
Note:
To change the previous clock setting, press **CLOCK/ PRESET** for at least 2 seconds. The previous clock setting will be displayed then follow steps 2 to 7 above.



In addition to setting the VTR clock from the remote controller, it can also be set directly from the VTR.

Preparation
Turn on the VTR.

For Example:
Date; 16th, October, 1999
Time; 20:15

Operations		Display Symbols	
1	CLOCK SET		Keep **CLOCK SET** pressed until a bleep sound is heard.
2	Set each item by pressing + or – and **NEXT**.		
	– + 		Set **Year** "99".
			Set **Month** "10".
	⬇		Set **Date** "16".
	NEXT		Set **Hour** "20".
			Set **Minute** "15". • There is no need to press **NEXT**.
3	CLOCK SET		Press **CLOCK SET**. • The clock will start.

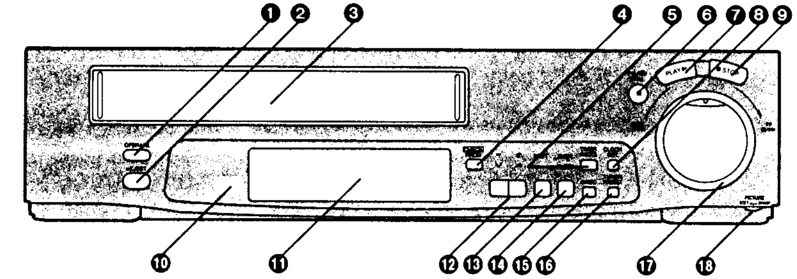
Time Reset Function
If the clock is less than two minutes slow or fast, it can easily be reset to the proper time.
For example: Resetting the clock to 12:00.00.

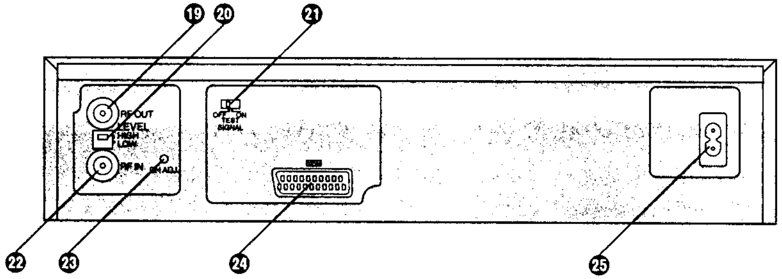
1 Press **CLOCK SET** at any time between 11:58.00 and 12:01.59 until the beep sound is heard.

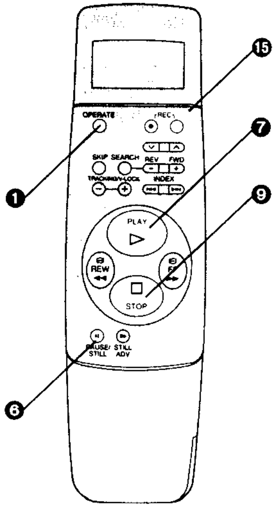
2 Press **CLOCK SET** again as soon as you hear the 12:00.00 time signal.

Note:
The clock operates for at least 60 minutes by its backup system in the event of power failure.

Controls and Connection Sockets


①
②
③
④
⑤
⑥
⑦
⑧
⑨
PLAY
STOP
OPERATE
EJECT
PICTURE
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱


⑲
⑳
㉑
RF OUT
LEVEL
HIGH
LOW
RF IN
CH ADJ.
OFF ON
TEST SIGNAL
㉒
㉓
㉔
㉕


⑮
OPERATE
REC
SKIP SEARCH
REV
FWD
TRACKING/V.LOCK
INDEX
PLAY
REW
STOP
PAUSE/STILL
STILL ADV
①
⑦
⑨
⑥

① **OPERATE**
To turn the VTR on and off.

② **EJECT**
To eject a video cassette.

③ **Cassette Compartment**
Insert a video cassette here.

④ **CHECK/PROG**
To select a timer programme number.
"1, 2, 3... or 8" is lit.
To display details of preset timer recording.

⑤ **TIMER REC**
To turn the timer recording function on and off.
⊡ is lit or not lit.
Once activating timer recording function, the normal VTR operation is not possible unless this button is set off.

⑥ **PAUSE/STILL**
During playback: Still picture.
During recording: To interrupt recording.

⑦ **PLAY**
To start playback. "▷" is lit.

⑧ **CLOCK SET**
To set the time.

⑨ **STOP**
To stop any playback or recording.

⑩ **Infra-red Remote Control Receiver Window**

⑪ **Display**

⑫ **∨ ∧/− +**
To select the required programme position (TV station).
To set the clock and timer recording.

⑬ **NEXT**
To proceed to the next item during setting procedure.

⑭ **SLEEP/SHIFT**
To set the time to turn off the VTR automatically.
To memorize programme position.

⑮ **REC**
To start a recording.

⑯ **TUNER PRESET**
To initiate TV station settings for the tuner.

⑰ **Shuttle Ring**
In the stop mode: To rewind or fast forward the tape.
In the playback mode:
To search picture backward or forward.
In the still playback mode:
To adjust playback speed backward or forward.
In the rewind or fast forward mode:
To obtain high speed picture.

⑱ **PICTURE**
To make picture sharper (SHARP) or softer (SOFT).

⑲ **RF OUT**
To connect to the aerial terminal on a TV set.

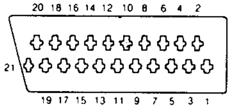
⑳ **LEVEL**
Used to adjust the UHF aerial signal strength.
HIGH: For normal position.
LOW: If a diagonal pattern or stripes appear on the picture.

㉑ **TEST SIGNAL**
The test signal is transmitted on channel 36.

㉒ **RF IN**
To connect to the external aerial.

㉓ **CH ADJ.**
To adjust the RF transmitting channel 30~42.

㉔ **AV1**
This 21-pin scart terminal carries input and output signals for both picture and sound. TV sets equipped with a similar socket can be connected here.
This is also called Scart
Peritel
Euro Connector
Euro AV

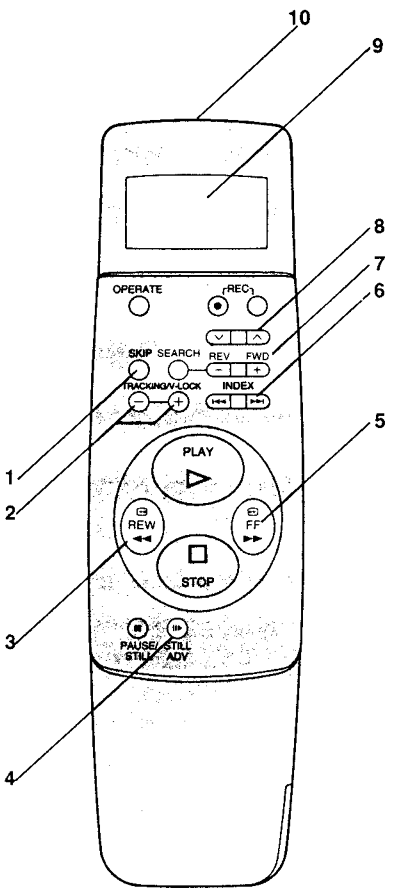

20 18 16 14 12 10 8 6 4 2
21
19 17 15 13 11 9 7 5 3 1

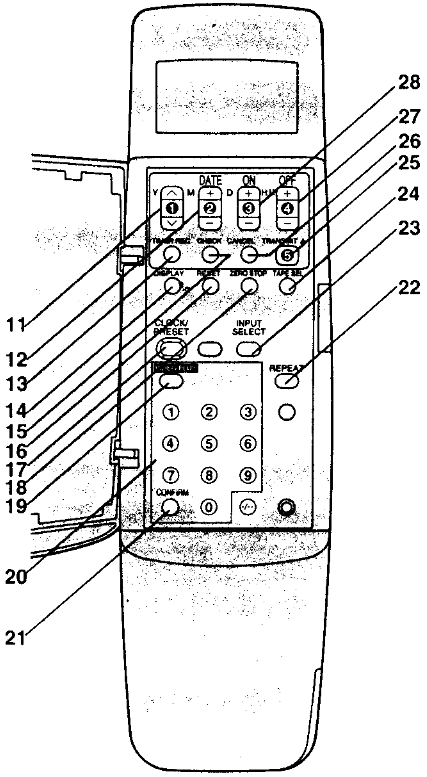
1 AUDIO OUTPUT	8 SWITCHING VOLTAGE
2 AUDIO INPUT	17 VIDEO GROUND
3 AUDIO OUTPUT	19 VIDEO OUTPUT
4 AUDIO GROUND	20 VIDEO INPUT
6 AUDIO INPUT	21 GROUND

No connection; 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 18

㉕ **AC IN~**
To connect to the main power supply.

Infra-red Remote Controller





1 SKIP
To start cue playback in 30 seconds interval during playback.
- Each press gives a 30 seconds time span up to 4 minutes.

2 TRACKING/V-LOCK
For manual tracking adjustment
The + and – buttons are used to adjust the tracking when, for example, noise bars on the picture are better removed manually than by the automatic digital tracking control. After making a manual adjustment, press both buttons together to return to automatic digital tracking control.

For slow tracking adjustment
When noise bars appear during Still, Still Advance or Slow playback, switch over to slow playback and adjust with the "+" or "–" button to reduce the noise bars.

For vertical locking adjustment
Use the + and – buttons to minimize any vertical jitter during still-picture playback.

3 REW (REWIND)

In the stop mode:	To rewind the tape.
In the playback mode:	To search backward.
In the rewind mode:	To obtain high speed picture.

"◁◁" is lit.

4 STILL ADV
To advance a still picture during still playback.

5 FF (FAST FORWARD)

In the stop mode:	To fast forward the tape.
In the playback mode:	To search forward.
In the fast forward mode:	To obtain high speed picture.

"▷▷" is lit.

6 INDEX
For the index search function.

7 SEARCH
To adjust the playback speed backward or forward.

8 ∨ ∧
To select the required programme position (TV station).

9 Display

10 Infra-red Transmitter
The programming data are transmitted from here to the VTR.

11 ∧∨ (Y)
- To programme a timer recording.
- To set the clock.

12 DATE (M)
- To programme a timer recording.
- To set the clock.

13 TIMER REC
To turn the timer recording function on and off.
◷ is lit or not lit.

14 DISPLAY
To change the indication on the VTR Display.
→Clock→Counter→Remaining Tape Time

15 CHECK
To check timer programmes.

16 RESET
To reset the tape counter (elapsed time) to "0:00.00".
- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

17 CLOCK/PRESET
- To set the clock.
- To set the satellite position.

18 ZERO STOP
For the zero stop function.

19 VIDEO PLUS
To programme a Video Plus+ PlusCode.

20 Programme Position Selector Buttons
- To select the programme positions.

9: ⑨
19: -/-- – ① – ⑨

- To enter a PlusCode.

21 CONFIRM
To convert the data of a PlusCode.

22 REPEAT
For the repeat playback function.

23 INPUT SELECT
To select the "A1" external recording source.

24 TAPE SEL
To set the cassette tape length in order to obtain correct indication of the remaining tape time.
E195: For E30, -60, -80, -120, -180 and -195 tapes.
E240: For E240 tape.
E260: For E260 tape.

25 TRANSMIT
To transmit the data that has been set on the remote controller to the VTR.

26 CANCEL
To cancel the settings made for a timer recording.

27 OFF (H:M)
- To programme a timer recording.
- To set the clock.
- To set the satellite position.

28 ON (D)
- To programme a timer recording.
- To set the clock.

Power Source for the Remote Controller

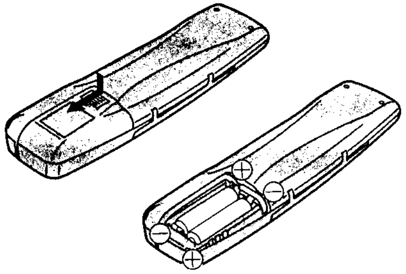
The remote controller is powered by 2 "UM3" or "R6" size batteries. The life of the batteries is about one year, although this depends on the frequency of use.

- When whatever appears on the display becomes faint, please replace the batteries with new ones.

Precautions for Battery Replacement

- Load the new batteries with their polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to the batteries, or an internal short-circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

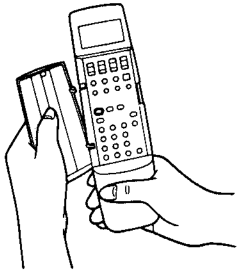
Installing the Batteries



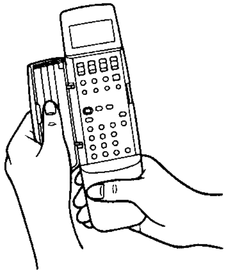
How to refit the Remote Controller Door

If the door of the remote controller is forced to open too much, it may come off. In this case, please follow the steps below.

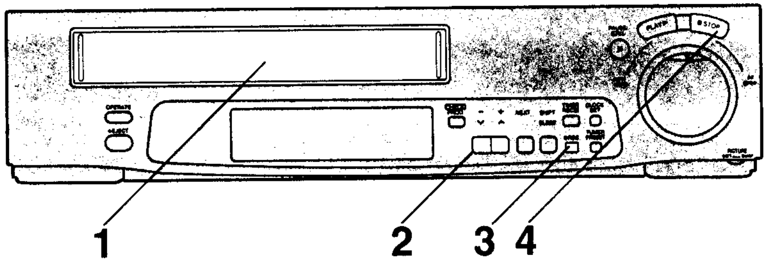
1 Refit the lower part of the door.

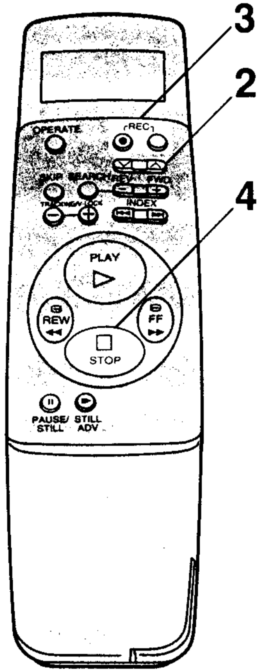


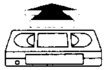
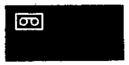
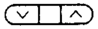
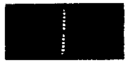
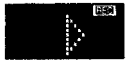
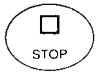
2 Insert the upper part of the door until it locks with a click.

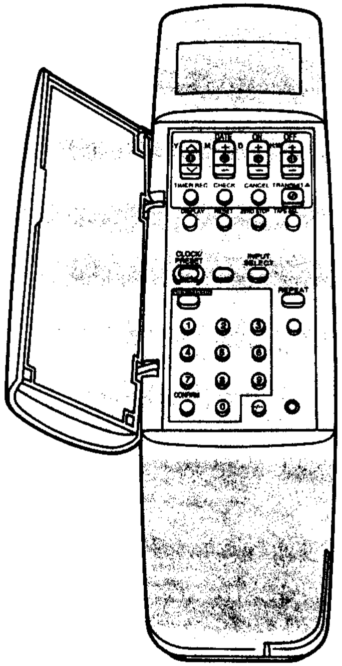


On-the-spot Recording




3
2
4
OPERATE
REC
PLAY
REW
FF
STOP
INDEX
PAUSE/STILL
STILL ADV

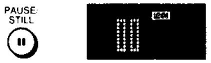
Operations	Display Symbols	
1 		Insert a cassette tape. •If it has already been inserted, press **OPERATE** to turn the VTR on.
2 		Select TV station.
3		Start recording.
4 		Stop recording.



Notes:
- •When a video cassette with a broken off tab is inserted, the "▆" indication will flash to indicate that recording is not possible.
- •The recording pause mode will be automatically released after 5 minutes, and be back to the stop mode.

To interrupt Recording

Press **PAUSE/STILL** during recording.
Press again to continue recording.


PAUSE STILL

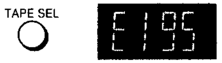
To record One TV Programme while Viewing Another Programme

1 Refer to the on-the-spot recording operations steps 1 to 3.

2 Select the TV programme on your TV set you wish to view at the present time.

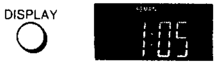
To display the Approximate Remaining Tape Time

1 Press **TAPE SEL** to select the corresponding cassette tape length.

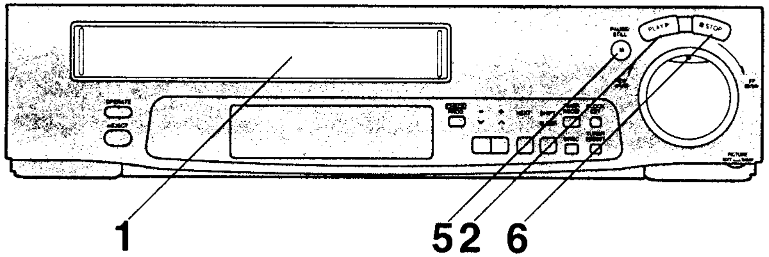

TAPE SEL
E 195

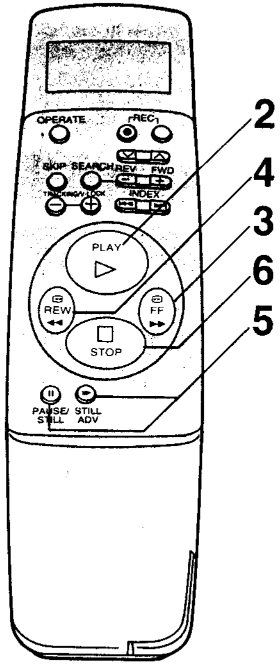
E195: For E30, -60, -80, -120, -180 and -195 tapes.
E240: For E240 tape.
E260: For E260 tape.

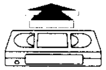
2 Press **DISPLAY**.

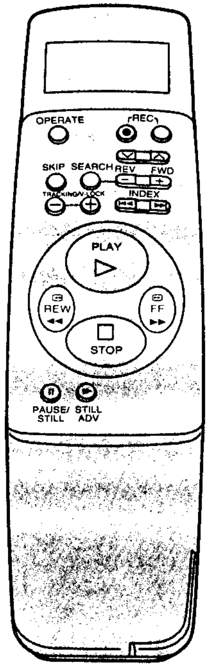

DISPLAY
1:05

Playback




OPERATE
REC
SKIP
SEARCH
REV
FWD
TRACKING/V.LOCK
INDEX
PLAY
REW
FF
STOP
PAUSE/STILL
STILL ADV
2
4
3
6
5

	Operations	**Display Symbols**	
1			Insert a recorded cassette tape.
2	PLAY ▷	▷	Start viewing the picture.
3	FF ▶▶	▷▷	Search forward by tapping **FF**. •To change back to normal playback, press **PLAY**.
4	REW ◀◀	◁◁	Search backward by tapping **REW**. •To change back to normal playback, press **PLAY**.
5	PAUSE/STILL STILL ADV	▯▯	View a still picture. •To advance one frame of the still picture, press **STILL ADV**. •To continue the normal playback, press **PLAY** or **PAUSE/STILL**.
6	□ STOP		Stop viewing the picture.


OPERATE
REC
SKIP
SEARCH
REV
FWD
TRACKING/V.LOCK
INDEX
PLAY
REW
FF
STOP
PAUSE/STILL
STILL ADV

Note:

Cue, review or slow playback will be automatically released after 10 minutes, and still playback after 5 minutes.

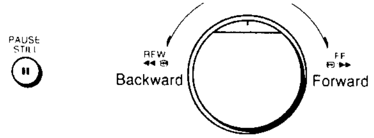
Other Playback Functions

To change the Playback Speed

Using Shuttle Ring:

1 Press **PAUSE/STILL**.

2 Rotate Shuttle Ring.


PAUSE STILL
REW
Backward
FF
Forward

Using Remote Controller:

1 Press **SEARCH**.

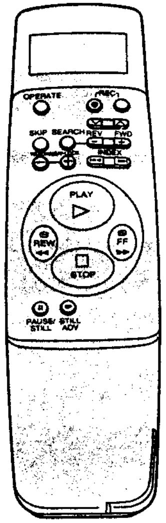
2 Press **FWD** or **REV** repeatedly.
FWD: To increase the playback speed forward
REV: To increase the playback speed backward

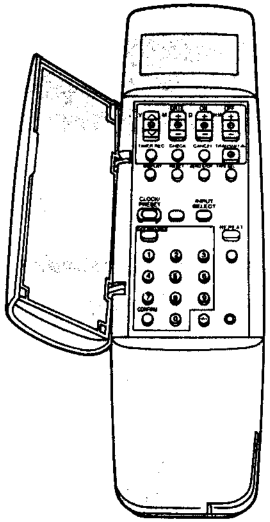
SEARCH
REV
FWD
−
+

To obtain High Speed Picture during Fast Forward or Rewind

Keep **FF** pressed during fast forward.
Keep **REW** pressed during rewind.

•The same operation can also be performed by turning the Shuttle Ring.


OPERATE
REC
SKIP
SEARCH
REV
FWD
INDEX
PLAY
REW
FF
STOP
PAUSE/STILL
STILL ADV



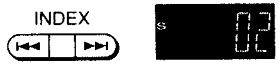
To Skip Scene

Press **SKIP** during playback.

- The following 30 seconds will be skipped.
- Each press gives a 30 seconds time span up to 4 minutes.

To find the Beginning of Each Recording

For example:
Searching for the 2nd recorded segment in the forward direction.
Press **INDEX ►►I** twice.



- After finding the specific recorded segment, playback starts automatically.
- For the reverse direction, press **INDEX I◄◄**.
- Up to 20 programmes can be searched for in both directions.
- When the incorrect numerical data has been entered, press **STOP** and enter the correct data.

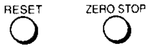
Recording Index Signals
Index signals are recorded in following cases.
WRITE indicator appears on the Display.

- When a recording is started by pressing **REC**.
- When **REC** is pressed during recording.
- When timer recording is activated.

To return to a Specified Scene

1 Press **RESET** to set the counter to 0:00.00.

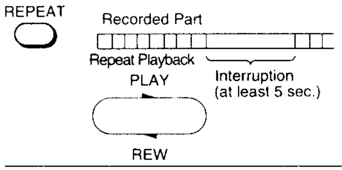
2 After playback, press **ZERO STOP** in the stop mode.


RESET
ZERO STOP

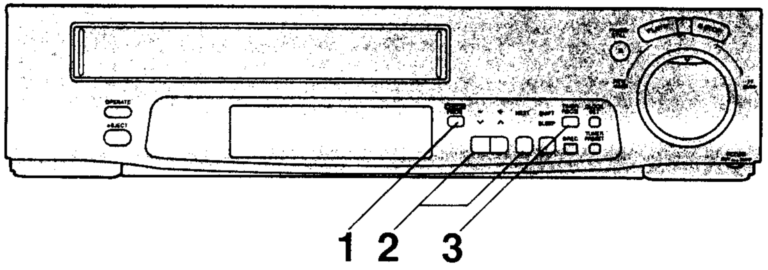
- The tape will be rewound or fast forwarded to 0:00.00.

To playback a Recorded Part repeatedly

Press **REPEAT** in the stop mode.


REPEAT
Recorded Part
Repeat Playback
PLAY
Interruption
(at least 5 sec.)
REW

Timer Recording



Preparation

Insert a cassette tape with an intact erasure prevention tab.

For Example:

Timer programme number;	1
Programme position (channel);	2
Date;	27th, October
Starting time;	20:02
Ending time;	21:30
(present date; 16th October)	

Operations		Display Symbols	
1	CHECK PROG		Select **Timer programme number** "1".
2	Set each item by pressing + or – and **NEXT**.		
	– +		Set **Programme position** (channel) "2".
			Set **Date** "27". •For daily and weekly recording, see next page.
			Set **Starting time** (hour) "20".
	↓		Set **Starting time** (minute) "02".
	NEXT		Set **Ending time** (hour) "21".
			Set **Ending time** (minute) "30". •There is no need to press **NEXT**.
3	TIMER REC		To activate timer recording, press **TIMER REC**.

Setting for Daily and Weekly Timer Recording

In the Date setting step, press – repeatedly until the desired day(days) is displayed.

Daily recording From Sunday to Saturday	SU MO TU WE TH FR SA
From Monday to Saturday	MO TU WE TH FR SA
From Monday to Friday	MO TU WE TH FR
Weekly recording For example, Sunday	SU

Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the AV1 socket, select the A1 indicator for the programme position.

Setting other Programmes in Succession

Repeat steps 1 and 2.

Checking a Timer Programme

Select the timer programme number to be checked by pressing **CHECK/PROG**.

Cancelling a Timer Programme

1 Release from the standby mode by pressing **TIMER REC**.

2 Select the timer programme number to be canceled by pressing **CHECK/PROG**.

3 Press + and – simultaneously for more than 3 seconds.

Note:
If a timer recording is not performed to the end (due to insufficient tape or cancellation by the user), the programmed timer recording data will be cancelled from the memory by 4 a.m. two days later.
However, if the Timer Record Function is activated at that time, the programmed timer recording data will be cancelled at 4 a.m. the next day.

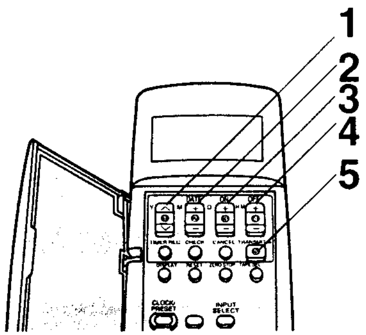
Optional Function

PDC (Programme Delivery Control)

The Programme Delivery Control (PDC) is a very convenient system which assures that the TV programmes you have programmed for timer recording will be recorded exactly from beginning to end, even if the actual broadcasting time differs from the scheduled time due to delayed start or extension of the programme duration. Also, if a programme is interrupted and, for example, some special news are inserted, the recording will also be interrupted automatically and resumed when the programme continues.

- This model is not equipped with PDC function. The PDC function becomes operative when the VTR is equipped with the optional PDC decoder. Consult your authorized video dealer.
- If the VTR is equipped with the PDC decoder, the PDC indicator lights when the correct PDC signals are transmitted from the broadcasting station.
- When the unit is set for programmed recording, the PDC indicator lights whether or not PDC signals are transmitted. This indicates that the recording has been programmed with PDC. To programme a recording without PDC, press **SHIFT**: this cancels the PDC function and turns off the PDC indicator.
- Since PDC signals are received when a recording is programmed using PDC, the power of the unit's tuner section is turned on and the programmed broadcasting is received. When a multiple number of programmes have been programmed for timer recording, all of the broadcasts concerned will be received in sequence. These broadcast pictures can be seen on the video playback channel and AV out (no sound).
- If the actual broadcasting times of timer recordings overlap (regardless of whether they are PDC-controlled), the recording that starts first has always priority, and the recording of the later beginning programme will start only after the first timer recording has finished.
- When the PDC signal drops out because the broadcast signal is weak, or when a broadcasting station does not transmit a regular PDC signal, the timer recording will be performed in the normal mode (without PDC) even if it was programmed for PDC.
In this case, even if the timer recording is performed, whatever has been programmed will not be cancelled at that particular time but at 4 a.m. on the following day.

Using the Remote Controller


1
2
3
4
5
DATE
ON
OFF
CLOCK/PRESET
INPUT SELECT

For Example:

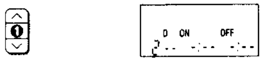
Programme position (channel);	2
Date;	27th, October
Starting time;	20:02
Ending time;	21:30

Preparation

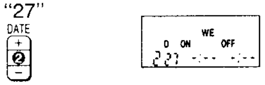
- Insert a cassette tape with an intact erasure prevention tab.
- Open the door of the remote controller.

Operations **Display Symbols**

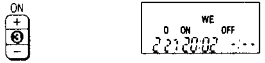
1 Set Programme position (channel) "2".



2 Set Date "27"

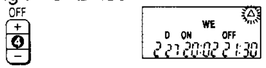

DATE
+
2
−
WE
D ON OFF
2 27 -:-- -:--

3 Set Starting time "20:02".


ON
+
3
−
WE
D ON OFF
2 27 20:02 -:--

- When it is kept pressed, the indication changes in 30-minute steps.

4 Set Ending time "21:30".


OFF
+
4
−
WE
D ON OFF
2 27 20:02 21:30

5 Press **TRANSMIT**.

6 Close the door of the remote controller.

Daily Timer Recording

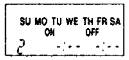
For this timer function, several groups of days can be selected.

Ⓐ Daily recording from Sunday to Saturday

Ⓑ Daily recording from Monday to Saturday

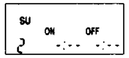
Ⓒ Daily recording from Monday to Friday

In step 3, select the desired days by pressing "DATE −". For Example, Ⓐ


SU MO TU WE TH FR SA
ON OFF
2 -:-- -:--

Weekly Timer Recording

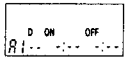
In step 3, select the desired day by pressing "DATE −". For example, SU (Sunday)



Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the AV1 socket, select the A1 indicator in step 1 for the programme position.

- A2: No function.



Checking a Timer Programme

- The VTR must be turned on, or the timer recording indicator "⏲" is lit.

Press **CHECK** repeatedly until the desired timer programme number is displayed.

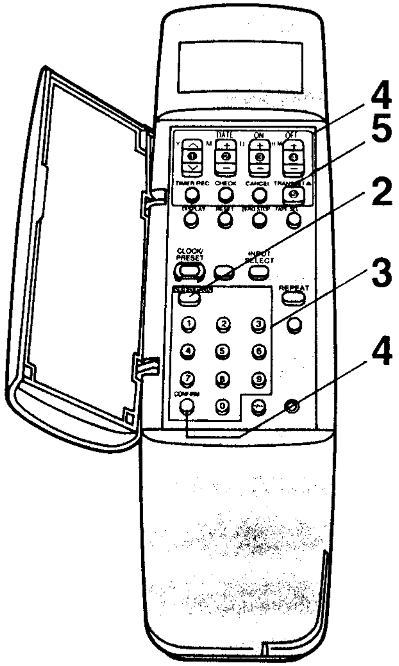
Cancelling a Timer Programme

1 Press **CHECK** repeatedly until the desired timer programme number is displayed.

2 Press **CANCEL**.

Programming the Video Plus+ PlusCode

Programming is now easier than ever: simply enter the PlusCode provided in the programme schedule column carried by newspapers and magazines.
PlusCodes are numbers which are assigned to each programme listed in the TV programme schedule carried in newspapers and TV guides. When these codes are entered and TRANSMIT is pressed, the codes are converted into the actual programming and sent to the VTR.


4
5
2
3
4
DATE
ON
OFF
CLOCK/PRESET
INPUT SELECT
REPEAT
CONFIRM

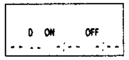
Note:
A satellite receiver cannot be operated using this unit's remote controller.

Preparation

- Insert a cassette tape with an intact erasure prevention tab.
- Set the programme positions on both the VTR and remote controller as shown on page 11.

Operations **Display Symbols**

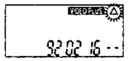
1 Open the door of the remote controller.



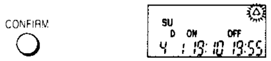
2 Press **VIDEO PLUS**.

VIDEO PLUS
VIDEO PLUS
----

3 Enter a PlusCode.
Example: 920216


VIDEO PLUS
92 02 16 --

4 Press **CONFIRM** to check that the code corresponds to the right programme.


CONFIRM
SU
D ON OFF
4 1 19:10 19:55

- To make any corrections, use buttons ❶~❹.

5 Press **TRANSMIT**.

6 Close the door of the remote controller.

Notes:

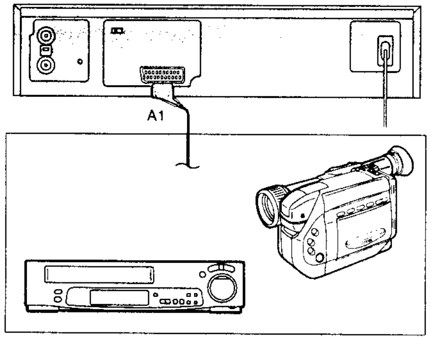
- When the PlusCode is used for programming, the recording time may be slightly longer than the actual programme time.
- Repeat steps 2 to 4 if "Err" appears on the remote controller.
- When programming two or more programmes, repeat steps 2 to 5 after pressing **TRANSMIT**.
- The procedures for checking and canceling whatever has been programmed are the same as for remote control programming.

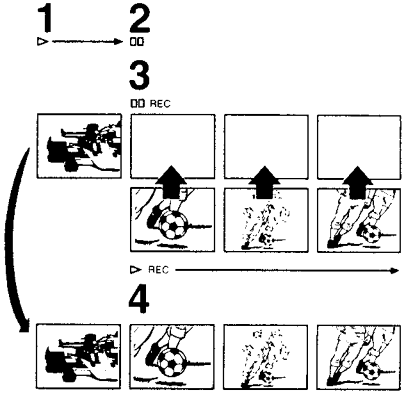
Editing

Assembly Editing

This function can be used to make up an edited tape from other recordings or video sources.

A new scene can be added to the end of a previous one.





Preparation

- Connect a movie camera or another VTR to this VTR as shown.
- Insert a recorded cassette tape with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1.
  A1: Through AV1 socket

Operations

1 Search for the end of the previous recording.

PLAY▸

2 Press **PAUSE/STILL** at the end point.

PAUSE STILL

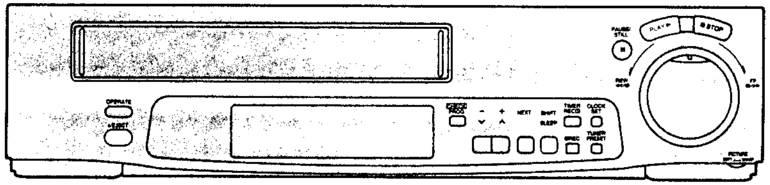
3 Set for the new recording by pressing **REC**.

●REC

4 Start the new recording by pressing **PAUSE/STILL** again.

PAUSE STILL

Other Functions



Playback of NTSC Tape

Tapes recorded in the NTSC system can be played back with this VTR via a PAL system TV set.

- NTSC is the TV broadcasting system used in U.S.A., Japan, and some other countries.
  PAL is another TV broadcasting system used in U.K., Germany and many other parts of the world.
  This VTR will not replay or record tapes on the SECAM broadcasting system.
  NTSC 4.43 is a modified version of the PAL broadcasting system to allow most UK TV's to reproduce a colour picture when an NTSC tape is replayed on this VTR. However due to the system change, the picture may shrink, roll or not reproduce colour on some televisions.

Automatic VTR Functions

Automatic Playback

When a cassette without an erasure prevention tab is inserted, the VTR starts playback automatically.

VTR-off Playback

When the VTR is off, an inserted cassette can be played back by pressing **PLAY**.

Automatic Rewinding

When the tape reaches its end during recording (except for timer recording) or playback, it will automatically be rewound to the beginning.

Automatic Switching Off and Ejection

When the VTR is switched off, an inserted cassette can be ejected simply by pressing **EJECT**. The VTR will eject the cassette and automatically turn itself off again.

Automatic VTR Off Time Setting

Press **SLEEP** for the desired time.

SLEEP
OFF
0:30

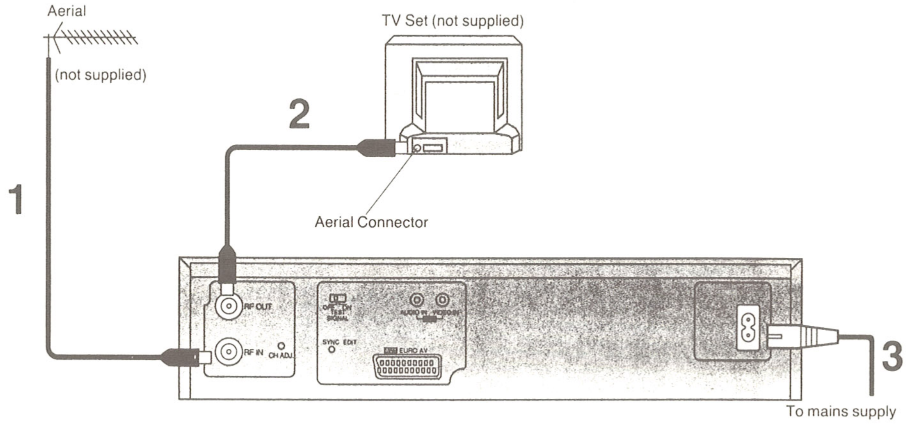
- Each press gives a 30 minutes time span up to 9 hours.
- To cancel the setting time, press **SLEEP** repeatedly to set 0:00.

Connections

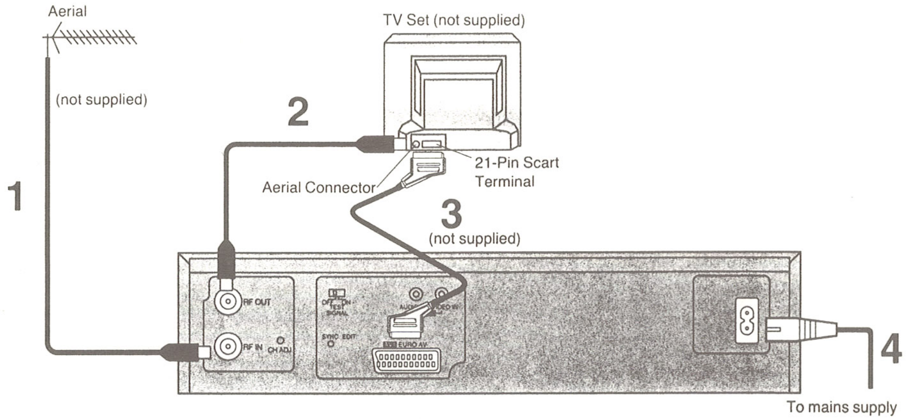
This tells you how to connect the VTR to an aerial, TV, etc.

Basic Connections

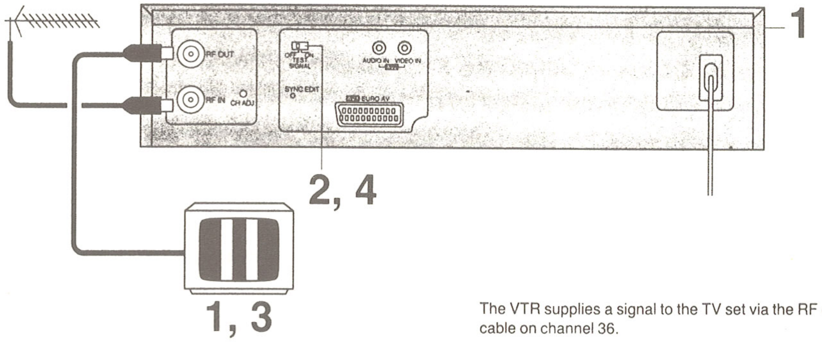
The following connections are required to record and play back the VTR through a TV set:


Aerial
(not supplied)
TV Set (not supplied)
2
1
Aerial Connector
RF OUT
RF IN
CH ADJ.
SYNC EDIT
EURO AV
3
To mains supply

Connection to a TV Set with 21-Pin Scart Terminal


Aerial
(not supplied)
TV Set (not supplied)
2
1
Aerial Connector
21-Pin Scart Terminal
3
(not supplied)
RF OUT
RF IN
CH ADJ.
4
To mains supply

Tuning the TV to your VTR

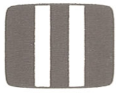

1
RF OUT
RF IN
CH ADJ.
TEST SIGNAL
SYNC EDIT
AUDIO IN
VIDEO IN
EURO AV
2, 4
1, 3

The VTR supplies a signal to the TV set via the RF coaxial cable on channel 36.

It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.

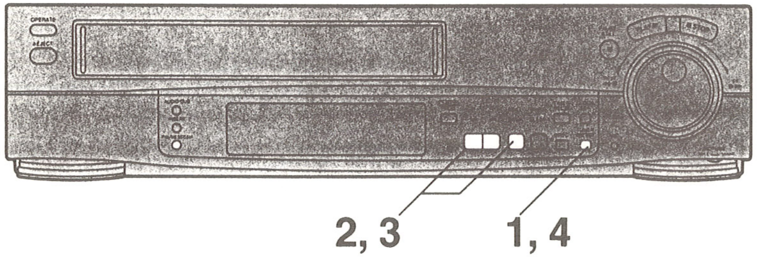
If you have connected the VTR to the TV through the 21-pin scart terminal then you do not need to follow the procedure mentioned below.

Operations

1		Turn on the TV and VTR.
2	OFF ON TEST SIGNAL	To generate a test pattern, set **TEST SIGNAL** to ON.
3		Set the TV to an unused position which you wish to use for your video playback.
4	OFF ON TEST SIGNAL	Set **TEST SIGNAL** to OFF.

Note:
The test signal is transmitted on video channel 36.
If you are encountering interference from a TV broadcast on this video channel, you may readjust to another free channel (32–40) by using the **CH ADJ.** screw which is located on the rear of the VTR.
Please note that if the **CH ADJ.** screw is used then you will have to retune your TV to the test signal as in item 2 to 4 above.

Storing TV Broadcasts into your VTR

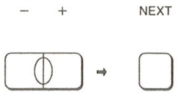
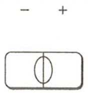


Introduction

The VTR is fitted with its own tuner (just like a normal TV set) and can be pre-set to receive up to 99 TV broadcast stations.

Preparation

- Confirm that the TV is on and the VTR viewing channel is selected.
- Turn on the VTR and select the programme position except A1 and A2.

Operations		Display Symbols	
1	TUNER PRESET		Keep **TUNER PRESET** pressed until a bleep sound is heard.
2	– + NEXT 		Select the programme position, then press **NEXT**.
3	– + 		Search for the required TV station. ● Press **PAL/MESECAM** to select SECAM system so that MESECAM indicator is lit. ● Press **NEXT** and repeat steps 2–3 for each programme position you want to tune to a station.
4	TUNER PRESET		Press **TUNER PRESET** twice.

Fine Tuning Procedure

1 Press **TUNER PRESET** until a bleep sound is heard, and then press again.

2 Press **NEXT**.

3 Press + or – to obtain the best tuning condition.
- "AFC" Indicator disappears.
- To return the tuning to its former state, press **SHIFT**.

4 Press **TUNER PRESET**.

Blanking of Unoccupied Programme Positions

1 Press **TUNER PRESET** until a bleep sound is heard.

2 Select a programme position which you do not want to tune to a TV station, by using + or –.

3 Press **SHIFT**. ("– –" is displayed.)
- Repeat steps 2 and 3 for other unoccupied programme positions to skip during the selection of the programme positions.
- To cancel the blanking of a programme position, select that programme position on the VTR and then press **SHIFT**.

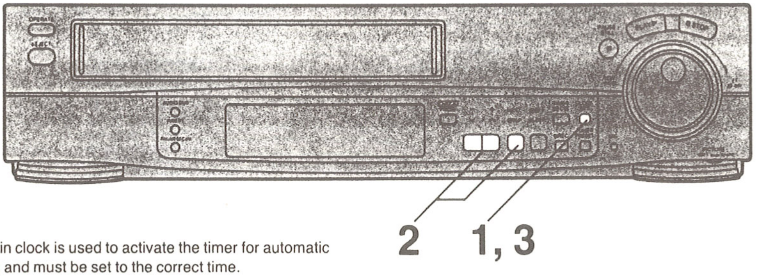
4 Press **TUNER PRESET** twice.

Channel Plan

Channel Indication	TV Channel	
	Germany/Italy	Other Countries
2–12	*E2–E12	E2–E12
13–20	A–H (Only Italy)	——
21–69	21–69	21–69
74–76	——	S1–S3
80–82	——	M1–M3
83–89	S4–S10	M4–M10
90–99	S11–S20	U1–U10
121–141	S21–S41 (Only Italy)	S21–S41

*In Italy: H1...(11), H2...(12)

Setting the Clock of the VTR



The built-in clock is used to activate the timer for automatic recording and must be set to the correct time.
The built-in digital clock employs the 24-hour system.

Preparation

Turn on the VTR.

For Example:

Date; 16th, October, 1999
Time; 20:15

Operations		Display Symbols	
1	CLOCK SET	00	Keep **CLOCK SET** pressed until a bleep sound is heard.
2	Set each item by pressing + or – and **NEXT**.		
	– +	99	Set **Year** "99".
		10 M	Set **Month** "10".
	↓	16 D	Set **Date** "16".
	NEXT	20:00	Set **Hour** "20".
		20:15	Set **Minute** "15". ●There is no need to press **NEXT**.
3	CLOCK SET	20:15	Press **CLOCK SET**. ●The clock will start.

Note:
The clock operates for at least 60 minutes by its backup system in the event of power failure.

Time Reset Function

If the clock is less than two minutes slow or fast, it can easily be reset to the proper time.

For example: Resetting the clock to 12:00.00.

1 Press **CLOCK SET** at any time between 11:58.00 and 12:01.59 until the bleep sound is heard.

2 Press **CLOCK SET** again as soon as you hear the 12:00.00 time signal.

Summer Time Function

Setting to summer time

1 Keep **CLOCK SET** pressed until the bleep sound is heard.

2 Press **SHIFT**.
●The time on the clock is advanced by 1 hour.

3 Press **CLOCK SET**.

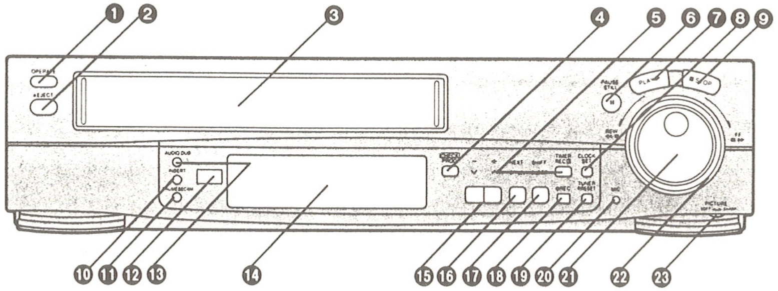
Returning from summer time to standard time

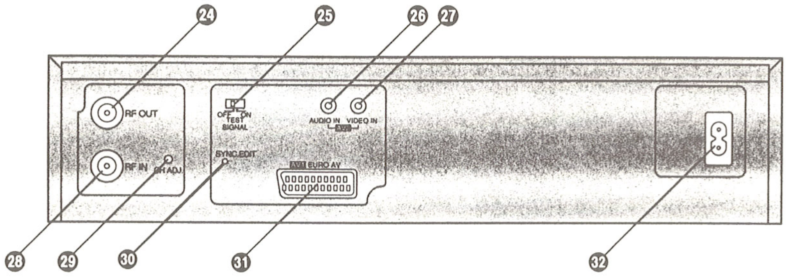
1 Keep **CLOCK SET** pressed until the bleep sound is heard.

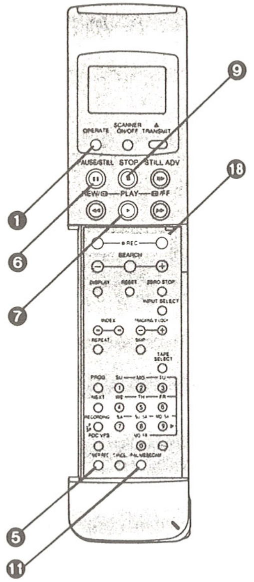
2 Press **SHIFT** twice.
●The time on the clock is set back by 1 hour.

3 Press **CLOCK SET**.

Controls and Connection Sockets







① **OPERATE**
To turn the VTR on and off.

② **EJECT**
To eject a video cassette.

③ **Cassette Compartment**
Insert a video cassette here.

④ **CHECK/PROG**
To select a timer programme number.
"1, 2, 3... or 8" is lit.
To display details of preset timer recording.

⑤ **TIMER REC**
To turn the timer recording function on and off.
⏲ is lit or not lit.
Once activating timer recording function, the normal VTR operation is not possible unless this button is set to off.

⑥ **PAUSE/STILL**
During playback: Still picture.
During recording: To Interrupt recording.

⑦ **PLAY**
To start playback. "▷" is lit.

⑧ **CLOCK SET**
To set the time.

⑨ **STOP**
To stop any playback or recording.

⑩ **INSERT**
To set up the VTR for insert editing.
INSERT indicator lights up.

⑪ **PAL/MESECAM**
Set according to the colour TV system used during recording and playback.
When the MESECAM Indicator is lit, the MESECAM system is selected.

⑫ **Infra-red Remote Control Receiver Window**

⑬ **AUDIO DUB**
To set up the VTR for audio dubbing.
A.DUB indicator lights up.

⑭ **Display**

⑮ ∨ ∧/− +
To select the required programme position (TV station).
To set the clock and timer recording.

⑯ **SP/LP/NEXT**
To select the tape speed required for recording.
SP gives the best picture quality.
LP gives the longest recording time.
To proceed to the next item during setting procedure.

⑰ **SLEEP/SHIFT**
To set the time to turn off the VTR automatically.
To blank unoccupied programme position.

⑱ **REC**
To start a recording.

⑲ **TUNER PRESET**
To initiate TV station settings for the tuner.

⑳ **MIC**
To connect a microphone for recording.

㉑ **Jog Dial**
To locate any desired frame with utmost precision.

㉒ **Shuttle Ring**
In the stop mode: To rewind or fast forward the tape.
In the playback mode:
To search picture backward or forward.
In the still playback mode:
To adjust playback speed backward or forward.
In the rewind or fast forward mode:
To obtain high speed picture.

㉓ **PICTURE**
To make picture sharper (SHARP) or softer (SOFT).

㉔ **RF OUT**
To connect to the aerial terminal on a TV set.

㉕ **TEST SIGNAL**
The test signal is transmitted on channel 36.

㉖ **AUDIO IN (AV2)**
To connect an audio cable to a video camera or another video recorder.

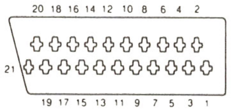
㉗ **VIDEO IN (AV2)**
To connect a video cable to a video camera or another video recorder.

㉘ **RF IN**
To connect to the external aerial.

㉙ **CH ADJ.**
To adjust the RF transmitting channel 32–40.

㉚ **SYNC. EDIT**
Connecting to a Movie Camera equipped with Synchro Edit Function.

㉛ **EURO AV (AV1)**
This 21-pin scart terminal carries input and output signals for both picture and sound. TV sets equipped with a similar socket can be connected here.

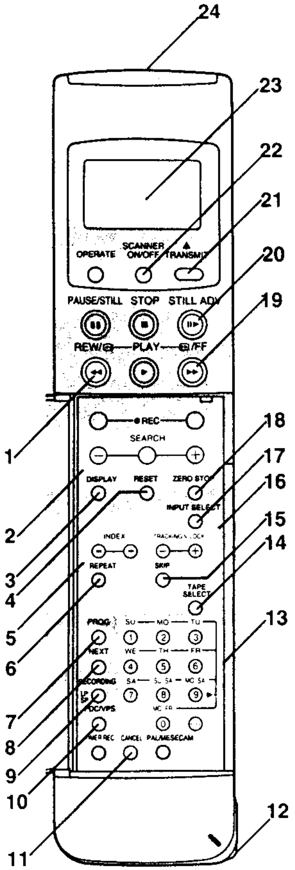


1	AUDIO OUTPUT	8	SWITCHING VOLTAGE
2	AUDIO INPUT	17	VIDEO GROUND
3	AUDIO OUTPUT	19	VIDEO OUTPUT
4	AUDIO GROUND	20	VIDEO INPUT
6	AUDIO INPUT	21	GROUND

No connection; 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 18

㉜ **AC IN~**
To connect to the main power supply.

Infra-red Remote Controller



1 REW (REWIND)

In the stop mode:	To rewind the tape.
In the playback mode:	To search backward.
In the rewind mode:	To obtain high speed picture.

"◁◁" is lit.

2 SEARCH

To adjust the playback speed backward or forward.

3 DISPLAY

To change the indication on the VTR Display.

→Clock→Counter→Remaining Tape Time—

4 RESET

To reset the tape counter (elapsed time) to "0:00.00".

- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

5 INDEX

For the index search function.

6 REPEAT

For the repeat playback function.

7 PROG

For timer recording by using the remote controller.

8 NEXT

To proceed to the next item during setting procedure.

9 RECORDING SP/LP

To select the tape speed desired for recording.

10 PDC/VPS

To turn the VPS or PDC function on and off.

11 CANCEL

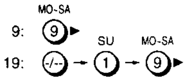
To cancel the settings made for a timer recording.

12 Bar Code Reading Section

After the Bar Code Reader is turned on, the tip lights in red.

13 Programme Position Selector Buttons

- To select the programme positions.



- To programme a timer recording.

14 TAPE SELECT

To set the cassette tape length in order to obtain correct indication of the remaining tape time.

E195: For E30, -60, -80, -120, -180 and -195 tapes.
E240: For E240 tape.
E260: For E260 tape.

15 SKIP

To start cue playback in 30 seconds interval during playback.

- Each press gives a 30 seconds time span up to 4 minutes.

16 TRACKING/V-LOCK

For manual tracking adjustment

The + and − buttons are used to adjust the tracking when, for example, noise bars on the picture are better removed manually than by the automatic digital tracking control. After making a manual adjustment, press both buttons together to return to automatic digital tracking control.

For slow tracking adjustment

When noise bars appear during Still, Still Advance or Slow playback, switch over to slow playback and adjust with the "+" or "−" button to reduce the noise bars.

For vertical locking adjustment

Use the + and − buttons to minimize any vertical jitter during still-picture playback.

17 INPUT SELECT

To select the "A1" or "A2" external recording source.

18 ZERO STOP

For the zero stop function.

19 FF (FAST FORWARD)

In the stop mode:	To fast forward the tape.
In the playback mode:	To search forward.
In the fast forward mode:	To obtain high speed picture.

"▷▷" is lit.

20 STILL ADV

To advance a still picture during still playback.

21 TRANSMIT

To transmit the data that has been set on the remote controller to the VTR.

22 SCANNER ON/OFF

To turn the Bar Code Reader on and off.

23 Display

24 Infra-red Transmitter

The programming data are transmitted from here to the VTR.

Power source for the remote controller

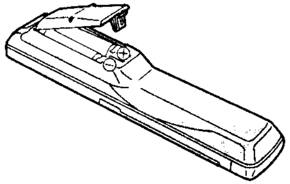
The remote controller is powered by 2 "UM3" or "R6" size batteries. The life of the batteries is about one year, although this depends on the frequency of use.

- If the display flickers when a button on the remote controller is pressed, please replace the batteries with new ones.

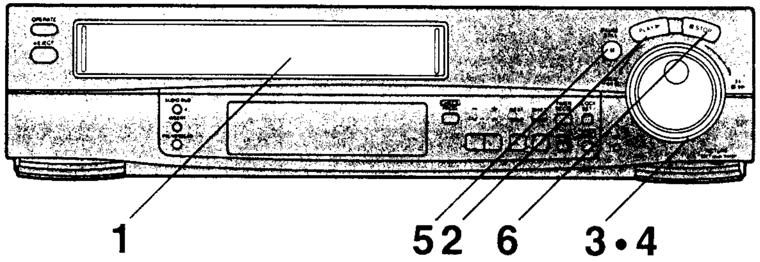
Precautions for battery replacement

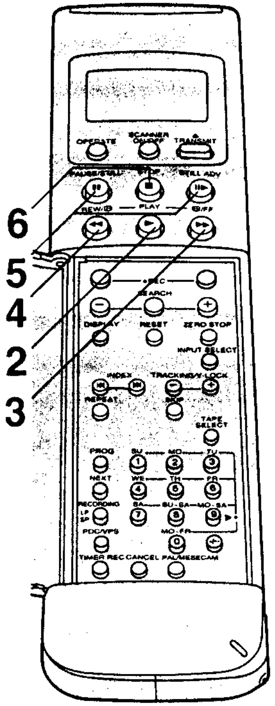
- Load the new batteries with their polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to the batteries, or an internal short-circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

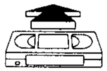
Loading the batteries



Playback





Operations	Display Symbols	
1 	⊡	Insert a recorded cassette tape.
2 PLAY ⊙	▷	Start viewing the picture.
3 ⊡/FF ⏩	▷▷	Search forward by tapping **FF**. •To change back to normal playback, press **PLAY**.
4 REW/⊡ ⏪	◁◁	Search backward by tapping **REW**. •To change back to normal playback, press **PLAY**.
5 PAUSE/STILL ⏸ ↓ STILL ADV ⏭	‖	View a still picture. •To advance one frame of the still picture, press **STILL ADV**. •To continue the normal playback, press **PLAY** or **PAUSE/STILL**.
6 STOP ⏹		Stop viewing the picture.

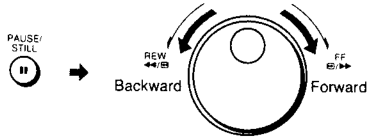
Other Playback Functions

To change the playback speed

Using Shuttle Ring:

1 Press **PAUSE/STILL**.

2 Rotate Shuttle Ring.



Using Remote Controller:

1 Press **SEARCH**.

2 Press + or − repeatedly.

+: To increase the playback speed forward

−: To increase the playback speed backward

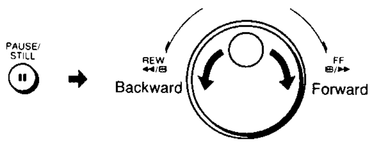
SEARCH

⊖—○—⊕

To locate the desired picture exactly

1 Press **PAUSE/STILL**.

2 Turn Jog Dial.



To obtain high speed picture during fast forward or rewind

Keep **FF** pressed during fast forward.

Keep **REW** pressed during rewind.

⊡/FF ⏩ REW/⊡ ⏪

- The same operation can also be performed by turning the Shuttle Ring.

To skip scene

Press **SKIP** during playback.

SKIP ○

- The following 30 seconds will be skipped.
- Each press gives a 30 seconds time span up to 4 minutes.

To return to a specified scene

1 Press **RESET** to set the counter to 0:00.00.

2 After playback, press **ZERO STOP** in the stop mode.

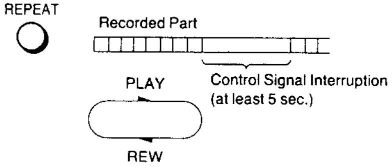
RESET ○ ZERO STOP ○

- The tape will be rewound or fast forwarded to 0:00.00.

To playback a recorded part repeatedly

Press **REPEAT** in the stop mode.

REPEAT ○



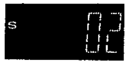
To find the beginning of each recording

For example:

Searching for the 2nd recorded segment in the forward direction.

Press **INDEX** ▶▶| twice.

INDEX ⏮—⏭



- After finding the specific recorded segment, playback starts automatically.
- For the reverse direction, press **INDEX** |◀◀.
- Up to 20 programmes can be searched for in both directions.

Recording Index Signals

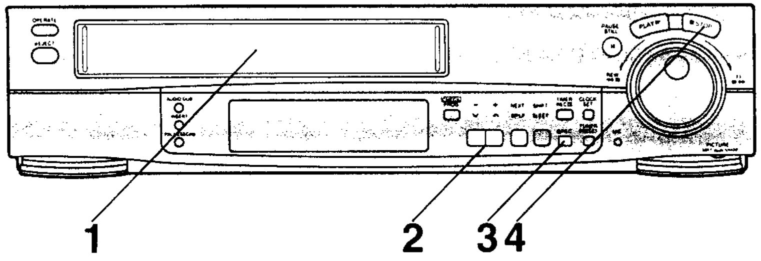
Index signals are recorded in following cases.
WRITE indicator appears on the Display.

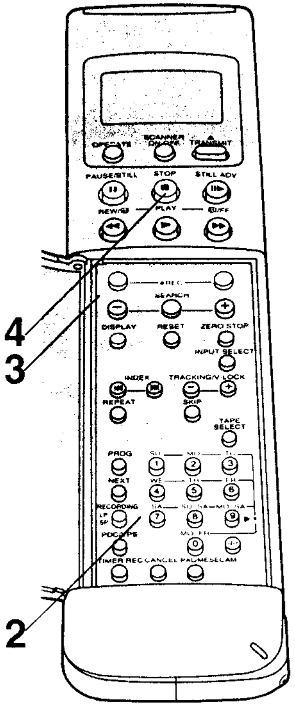
- When a recording is started by pressing **REC**.
- When **REC** is pressed during recording.
- When timer recording is activated.

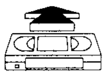
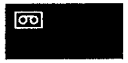
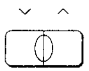
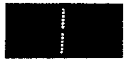
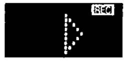
Notes:

- During Playback, set **PAL/MESECAM**.
  - PAL: When playing back a tape recorded in the PAL system.
  - MESECAM: When playing back a tape recorded in the MESECAM system. MESECAM Indicator lights up.
- Cue, review or slow playback will be automatically released after 10 minutes, and still playback after 5 minutes.

On-the-spot Recording

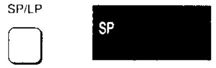



OPERATE
SCANNER ON/OFF
PAUSE/STILL
STOP
STILL ADV
REW
PLAY
FF
REC
SEARCH
DISPLAY
RESET
ZERO STOP
INPUT SELECT
INDEX
TRACKING/V LOCK
REPEAT
SKIP
TAPE SELECT
PROG
NEXT
TIMER REC
CANCEL
4
3
2

Operations	Display Symbols	
1 		Insert a cassette tape. ●If it has already been inserted, press **OPERATE** to turn the VTR on.
2 		Select TV station.
3 ●REC		Start recording.
4		Stop recording.

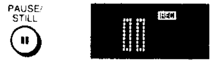
To select the desired tape speed

Press **SP/LP** before recording.



To interrupt recording

Press **PAUSE/STILL** during recording.
Press again to continue recording.


PAUSE/ STILL

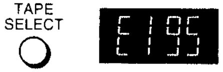
To record one TV programme while viewing another programme

1 Refer to the on-the-spot recording operations steps 1 to 3.

2 Select the TV programme on your TV set you wish to view at the present time.

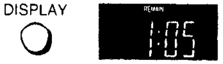
To display the approximate remaining tape time

1 Press **TAPE SELECT** to select the corresponding cassette tape length.


TAPE SELECT
E 195

E195:	For E30, -60, -80, -120, -180 and -195 tapes.
E240:	For E240 tape.
E260:	For E260 tape.

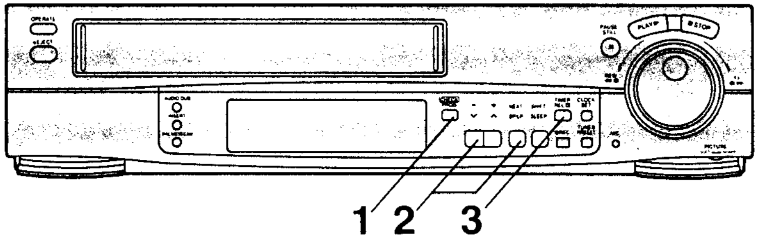
2 Press **DISPLAY**.


DISPLAY
1:05

Notes:

- ●When a video cassette with a broken off tab is inserted, the "▭" indication will flash to indicate that recording is not possible.
- ●The recording pause mode will be automatically released after 5 minutes, and be back to the stop mode.

Timer Recording



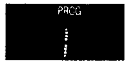
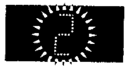
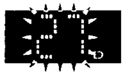
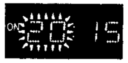
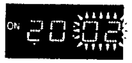
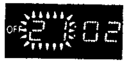
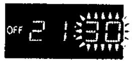
Up to 8 timer programmes can be recorded up to one month in advance by setting the timer, including daily and weekly programmes.

Preparation

Insert a cassette tape with an intact erasure prevention tab.

For Example:

Timer programme number;	1
Programme position (channel);	2
Date;	27th, October
Starting time;	20:02
Ending time;	21:30
(present date; 16th October)	

	Operations	Display Symbols	
1	CHECK PROG		Select **Timer programme number** "1".
2	Set each item by pressing + or – and **NEXT**.		
	– +		Set **Programme position** (channel) "2".
			Set **Date** "27". • For daily and weekly recording, see next page.
			Set **Starting time** (hour) "20".
	⬇		Set **Starting time** (minute) "02".
	NEXT		Set **Ending time** (hour) "21".
			Set **Ending time** (minute) "30". • There is no need to press **NEXT**.
3	TIMER REC		To activate timer recording, press **TIMER REC**.

Setting for Daily and Weekly Timer Recording

In the Date setting step, press – repeatedly until the desired day(days) is displayed.

Daily recording From Sundy to Saturday	SU MO TU WE TH FR SA
From Monday to Saturday	MO TU WE TH FR SA
From Monday to Friday	MO TU WE TH FR
Weekly recording For example, Sunday	SU

Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the Euro AV Socket or the Audio/Video input sockets, select the A1 or A2 indicator for the programme position.

A1: Through the Euro AV socket (AV1)
A2: Through the Audio/Video input sockets (AV2)

Selecting the Desired Tape Speed

After step 2, press **NEXT** and select SP or LP by pressing + or –.

Setting other Programmes in Succession

Repeat steps 1 and 2.

Checking a Timer Programme

Select the timer programme number to be checked by pressing **CHECK/PROG**.

Cancelling a Timer Programme

1. Release from the standby mode by pressing **TIMER REC**.
2. Select the timer programme number to be canceled by pressing **CHECK/PROG**.
3. Press + and – simultaneously for more than 3 seconds.

VPS (Video Programme System)/PDC (Programme Delivery Control)

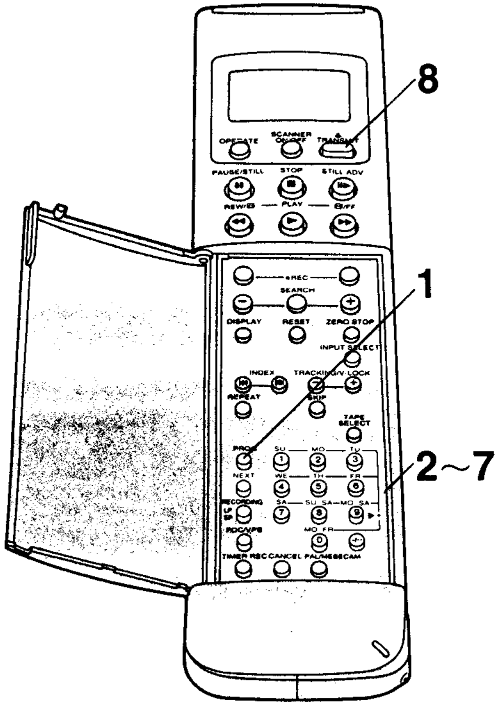
The Video Programme System (VPS) or the Programme Delivery Control (PDC) is a very convenient system which assures that the TV programmes you have programmed for timer recording will be recorded exactly from beginning to end, even if the actual broadcasting time differs from the scheduled time due to delayed start or extension of the programme duration. Also, if a programme is interrupted and, for example, some special news are inserted, the recording will also be interrupted automatically and resumed when the programme continues.

- Press **SHIFT** in step 2 to cancel the VPS (PDC) function.
- If the actual broadcasting times of timer recordings overlap [regardless of whether they are VPS (PDC)-controlled], the recording that starts first has always priority, and the recording of the later beginning programme will start only after the first timer recording has finished.
- When the VPS (PDC) signal drops out because the broadcast signal is weak, or when a broadcasting station does not transmit a regular VPS (PDC) signal, the timer recording will be performed in the normal mode (without VPS/PDC) even if it was programmed for VPS (PDC).
  In this case, even if the timer recording is performed, whatever has been programmed will not be cancelled at that particular time but at 4 a.m. on the following day.
- Model NV-SD40EO is not equipped with VPS (PDC) function. The VPS (PDC) function becomes operative when the VTR is equipped with the optional VPS (PDC) decoder. Consult your authorized video dealer.

Note:

If a timer recording is not performed to the end (due to insufficient tape or cancellation by the user), the programmed timer recording data will be cancelled from the memory by 4 a.m. two days later.
However, if the Timer Record Function is activated at that time, the programmed timer recording data will be cancelled at 4 a.m. the next day.

Using the Remote Controller



For Example:

Programme position (channel);	27
Date;	3rd, November
Starting time;	20:02
Ending time;	21:30
(Present date; 16th, October)	

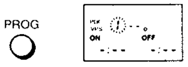
Note:
If no operation is performed on the remote controller for more than 60 seconds, the Display turns off.

Preparation

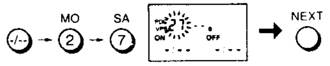
Insert a cassette tape with an intact erasure prevention tab.

Operations

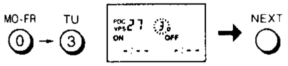
1 Press **PROG.**



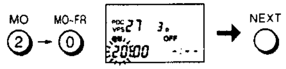
2 Enter **Programme position** "27", then press **NEXT.**



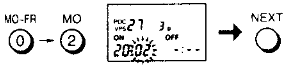
3 Enter **Date** "3", then press **NEXT.**



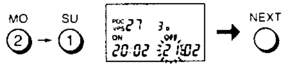
4 Enter **Starting time** (hour) "20", then press **NEXT.**



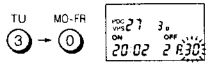
5 Enter **Starting time** (minute) "02", then press **NEXT.**



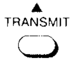
6 Enter **Ending time** (hour) "21", then press **NEXT.**



7 Enter **Ending time** (minute) "30".



8 Press **TRANSMIT.**



The transmitted data appears on the display of the VTR and a repeated bleep confirms the reception.

Daily Timer Recording

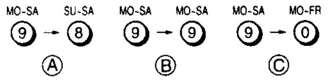
For this timer function, several groups of days can be selected.

Ⓐ Daily recording from Sunday to Saturday

Ⓑ Daily recording from Monday to Saturday

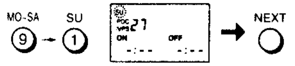
Ⓒ Daily recording from Monday to Friday

Press the following numeric button within 5 seconds to select the group of days in step 3.



Weekly Timer Recording

Press the 9 button and then the numeric button within 5 seconds in step 3.
For example, SU (Sunday)



Timer Recording from External Signal Source

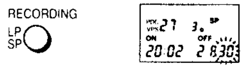
If Timer Recording is performed by a unit connected to the Euro AV socket, press **INPUT SELECT** to select the A1 indicator for the programme position.

- A2 cannot be selected.

INPUT SELECT

Selecting the Desired Tape Speed

Press **RECORDING SP/LP** in any of steps 2~7.



Turning VPS (PDC) function on and off

Press **PDC/VPS** in any of steps 2~7.

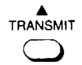
Checking a Timer Programme

- The VTR must be turned on, or the timer recording indicator "⏲" is lit.
- Make sure that the display of the Remote Controller is not on.

Press **TRANSMIT** repeatedly until the desired timer programme number is displayed.

Cancelling a Timer Programme

1 Press **TRANSMIT** repeatedly until the desired timer programme number is displayed.



2 Press **CANCEL.**

Editing

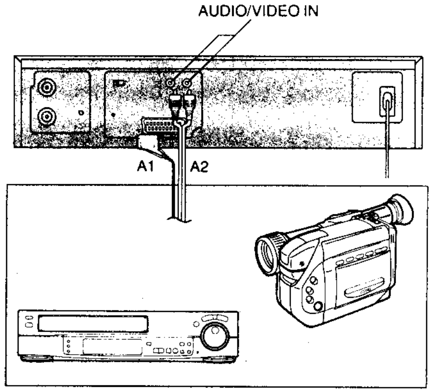
Assembly Editing

This function can be used to make up an edited tape from other recordings or video sources.

This enables you to record a new segment immediately after a previously recorded segment.

Preparation

- Connect a movie camera or another VTR to this VTR as shown.
- Insert a recorded cassette tape with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1 or A2.
  A1: Through Euro AV socket (AV1)
  A2: Through Audio/Video input sockets (AV2)
- Set **PAL/MESECAM** according to the colour TV system of the video source.
  PAL: When receiving PAL signals
  MESECAM: When receiving SECAM signals
  The MESECAM Indicator lights up.



Operations

1 Press **PAUSE/STILL**.

PAUSE/STILL

2 Search for the end of the previous recording.

REW FF

3 Set for the new recording by pressing **REC**.

●REC

4 Start the new recording by pressing **PAUSE/STILL** again.

PAUSE/STILL

Synchronized Editing

It is possible to synchronize the playback start and stop of the Movie Camera with the recording start and stop of this VTR.

- Connect a Movie Camera to this VTR with Synchro Connection Cord (optional).

1 Put the VTR in the recording pause mode by pressing **REC** and **PAUSE/STILL**.

2 Put the Movie Camera in the still palyback mode at the point where you want to start editing.

3 Press **PAUSE/STILL** on the VTR.
- The Movie Camera changes over to the playback mode and the dubbing will start automatically.

Synchronized Editing between the VTRs

When editing from another VTR equipped with Synchro Edit Socket, synchronized start and stop of both VTRs can be activated from this VTR.

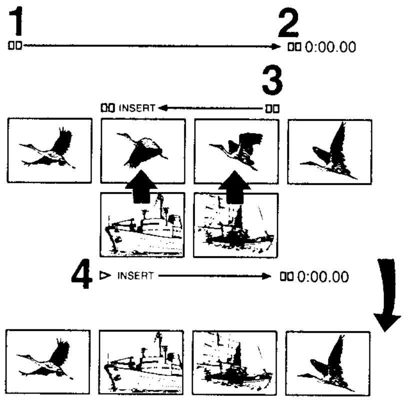
The operation is the same as described for synchronized editing from a Movie Camera.

Insert Editing

This editing method allows a new recorded segment to be inserted into an existing recording to replace an existing segment of the same length.

Preparation

- Insert a recorded cassette with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1 or A2.



Operations		Display Symbols	
1	PAUSE/STILL		Press **PAUSE/STILL**.
2	REW FF RESET		Search for the Edit out (ending) point, and set the counter to 0:00.00 by pressing **RESET**.
3	REW FF INSERT		Search for the Edit in (starting) point, and press **INSERT**. • If you want to replace the sound too, press **AUDIO DUB** as well.
4	PAUSE/STILL		Start insert editing by pressing **PAUSE/STILL**. • The insert editing will finish when the counter reaches 0:00.00.

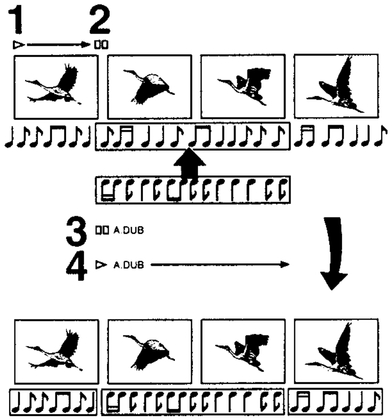
Note:
Insert Editing cannot be used on blank sections of a tape. In this case use Assembly Editing first.

Audio Dubbing

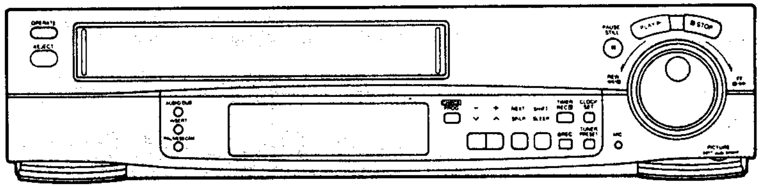
This enables you to record new sound on a previously recorded tape.

Preparation

- Insert a recorded cassette with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1 or A2.



Operations	Display Symbols	
1 PLAY	▷	Search for the starting point for audio dubbing.
2 PAUSE/STILL	⏸	Press **PAUSE/STILL** at the starting point.
3 AUDIO DUB ○	A DUB ⏸	Set for audio dubbing by pressing **AUDIO DUB.**
4 PAUSE/STILL	A DUB ▷	Start recording the new sound by pressing **PAUSE/STILL.** • Stop recording by pressing **STOP**.



Automatic VTR off at time setting

Press **SLEEP** for the desired time.

SLEEP
OFF
0:30

- Each press gives a 30 minutes time span up to 9 hours.
- To cancel the setting time, press **SLEEP** repeatedly to set 0:00.

NTSC Playback

Tapes recorded in the NTSC system can be played back with this VTR via a PAL system TV set.

Other Automatic Functions

Automatic Playback

When a cassette without an erasure prevention tab is inserted, the VTR starts playback automatically.

VTR-off Playback

When the VTR is off, an inserted cassette can be played back by pressing **PLAY**.

Automatic Rewinding

When the tape reaches its end during recording (except for timer recording) or playback, it will automatically be rewound to the beginning.

Automatic Switching Off and Ejection

When the VTR is switched off, an inserted cassette can be ejected simply by pressing **EJECT**. The VTR will eject the cassette and automatically turn itself off again.

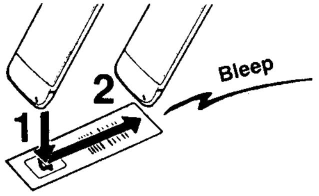
Bar Code Operation

Scanner Preparation

Operating the Remote Controller

Press **SCANNER ON/OFF** to turn it on.
If the remote controller is not operated within 60 seconds (within 4 minutes when setting the clock time), the lamp and Display turns off.

How to use the Scanner

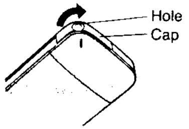


When the Bar Codes Cannot be Read

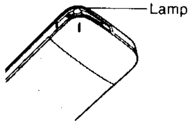
Although the lamp in the tip of the Bar Code Reading Section lights up:
- No figures appear in the Display
- No bleep sounds is heard;

The tip of the Bar Code Reading Section is probably clogged with dirt.

1 Remove the cap.



2 Gently wipe the tip of the lamp with a soft cloth.



Setting the Clock

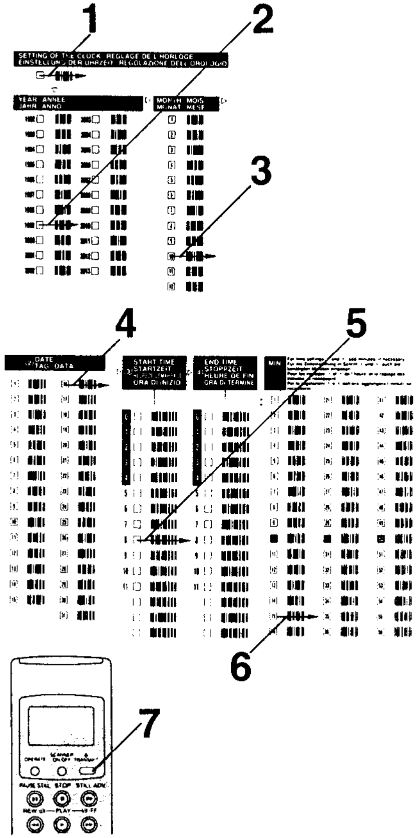
Read in the following data successively by tracing bar codes 1 to 6 on the programming sheet.

Preparation

Turn on the VTR and the remote controller.

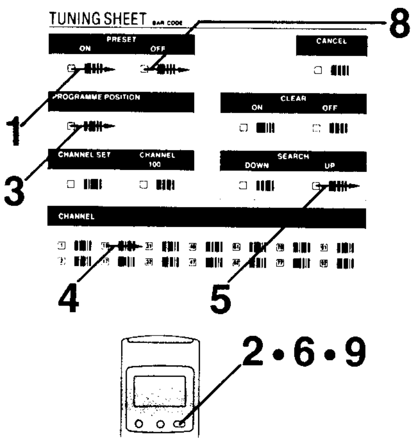
For Example:

Date; 16th, October 1999
Time; 8:15



Storing TV Broadcasts

Read in the required data successively by tracing the bar codes on page 99.



Preparation

Turn on the VTR and the Remote Controller.

Operations

1 Trace the bar code "PRESET ON".
- If no operations are performed within more than 4 minutes, the Digital Scanner will automatically turn itself off.

2 Press **TRANSMIT** to transmit to the VTR.

3 Trace the bar code "PROGRAMME POSITION".

4 Trace the bar code for the programme position (channel) that you want to tune to a station.

5 Trace the bar code "SEARCH UP" or "SEARCH DOWN".

6 Press **TRANSMIT** to transmit to the VTR.
- The channel will be tuned automatically.
- At every push of the button, the next channel will be tuned.

7 Press **PAL/MESECAM** to select SECAM system so that MESECAM indicator is lit on the VTR Display.

8 Trace the bar code "PRESET OFF".

9 Press **TRANSMIT**.

Notes:
- If you make a mistake in the above operation steps, trace the bar code "CANCEL" and start again from step 4.
- When setting more than 2 channels, repeat the steps 3–7 above.

Setting the Tuner Directly

Perform the operation steps 1–4.

5 Trace the bar code "CHANNEL SET".

6 Trace the number of the channel for the TV station that you want to tune.
- When tuning a TV station in the hyperband, trace the bar code "CHANNEL 100~" and then trace the bar code "CHANNEL".

Press **TRANSMIT** to transmit to the VTR.

Perform the operation steps 7–9.

If you want to tune further TV stations, repeat the steps 3 to 7.

Blanking of Unoccupied Programme Positions

Perform the operation steps 1–3.

4 Trace the bar code for the programme position that you want to blank so that it will be skipped during Up/Down selection of the programme position.

5 Trace the bar code "CLEAR ON".

6 Press **TRANSMIT** to transmit to the VTR.

7 Trace the bar code "PRESET OFF".

8 Press **TRANSMIT**.

Cancelling the Clear Function (Blanking)

Perform the operation steps 1–3 above.

4 Trace the bar code for the programme position that has been blanked until now.

5 Trace the bar code "CLEAR OFF".

Perform the operation steps 6–8 above.

- To programme a timer recording or the set the clock time immediately after setting the tuner in the VTR by using the Remote Controller, first press **SCANNER ON/OFF** on the Remote Controller to turn it off, before starting the above operation.

Timer Recording

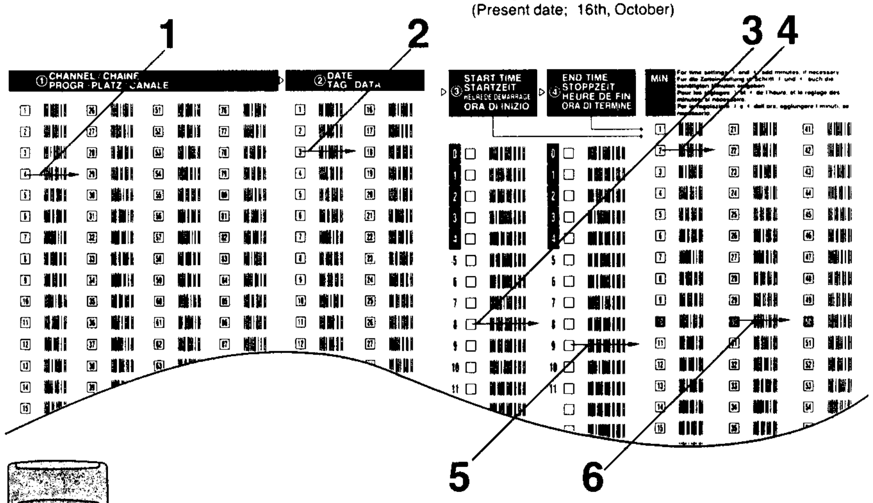
Successively scan the data for the programme position (channel), day, starting time and ending time by tracing bar codes 1 to 6 on the programming sheet.

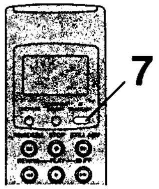
Preparation

Turn on the VTR and the remote controller.

For Example:

Programme position (channel);	4
Date;	3rd, November
Starting time;	8:02
Ending time;	9:30
(Present date; 16th, October)	


1
2
3 4
5
6
① CHANNEL · CHAINE PROGR · PLATZ · CANALE
② DATE TAG · DATA
START TIME ③ STARTZEIT HEURE DE DEMARRAGE ORA DI INIZIO
END TIME ④ STOPPZEIT HEURE DE FIN ORA DI TERMINE
MIN



Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the Euro AV socket, the AV1 bar code in the CHANNEL column must be traced in the step 1.

- AV2 cannot be selected.

AV1

PDC VPS
A 1 --
ON
OFF
-:--
-:--

Daily and Weekly Timer Recording

In the step 2, trace the bar code for:

Daily

Sunday to Saturday (SU~SA) ☐

Monday to Friday (MO~FR) ☐

Monday to Saturday (MO~SA) ☐

Weekly

For example; Sunday

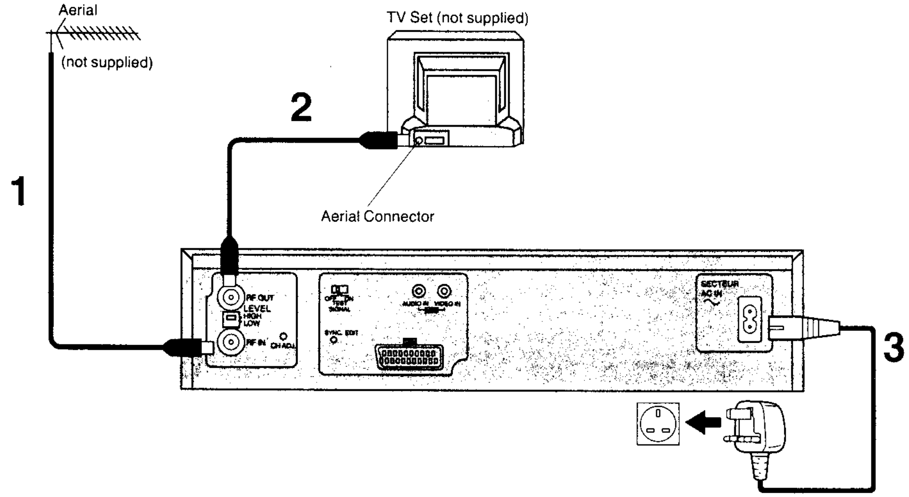
EVERYWEEK
WÖCHENTLICH
HEBDOMADAIRE
SETTIMANALE

SU

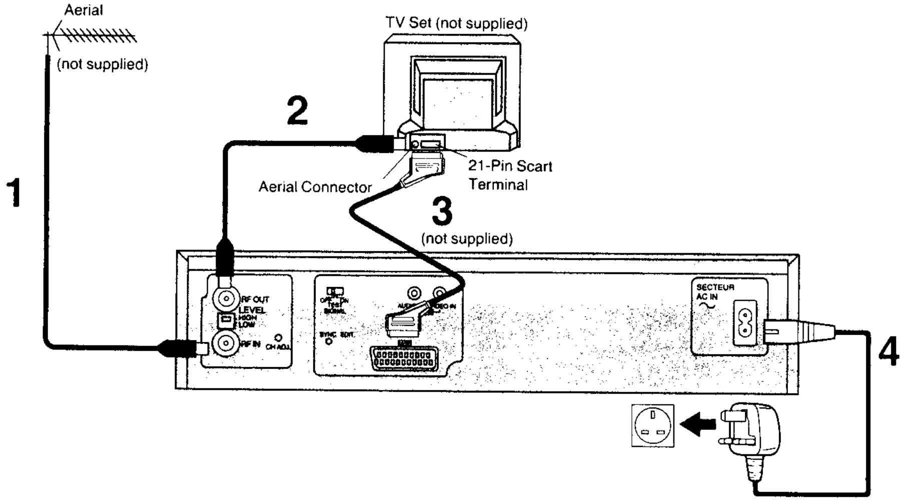
Connections

Basic Connections

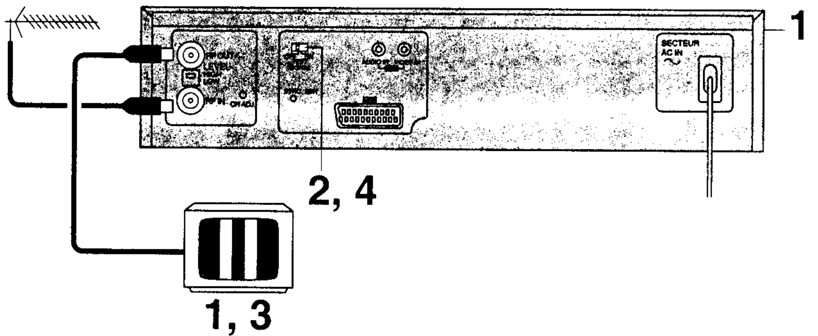
The following connections are required to record and play back the VTR through a TV set:


Aerial
(not supplied)
TV Set (not supplied)
2
1
Aerial Connector
RF OUT
LEVEL
HIGH
LOW
RF IN
CH ADJ.
SECTEUR
AC IN
3

Connection to a TV Set with 21-Pin Scart Terminal


Aerial
(not supplied)
TV Set (not supplied)
2
1
Aerial Connector
21-Pin Scart Terminal
3
(not supplied)
RF OUT
LEVEL
HIGH
LOW
RF IN
CH ADJ.
SECTEUR
AC IN
4

Tuning the TV to your VTR



It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.

If you have connected the VTR to the TV through the 21-pin scart terminal, then you do not need to follow the procedure mentioned below.

Operations

1

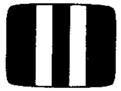
Turn on the TV and VTR.

2

OFF
ON
TEST
SIGNAL

To generate a test pattern, set **TEST SIGNAL** to ON.

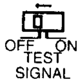
3



Set the TV to an unused position which you wish to use for your video playback.

- Tune the TV until the test pattern appears on the screen.

4

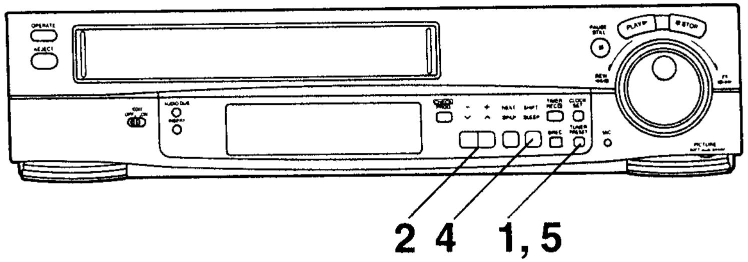

OFF
ON
TEST
SIGNAL

Set **TEST SIGNAL** to OFF.

Note:
The test signal is transmitted on channel 36 of the UK broadcasting channels. If you are encountering interference from another broadcast on the video channel, you may readjust to a free channel by using the **CH ADJ.** screw which is located on the rear of the VTR.

Please note that if the **CH ADJ.** screw is used then you will have to retune your TV to the test signal as in item 2 to 4 above.

Storing TV Broadcasts into your VTR

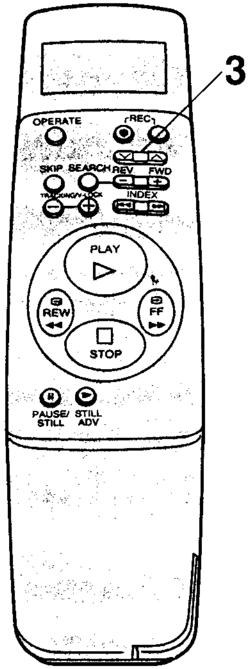


Introduction

The VTR is fitted with its own tuner (just like a normal TV set) and can be pre-set to receive up to 99 TV broadcast stations.

Preparation

- Confirm that the TV is on and the VTR viewing channel is selected.
- Turn on the VTR and select the programme position except A1 and A2.
- Install the batteries in the remote controller. See page 20.

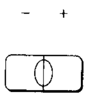


Operations **Display Symbols**

1 TUNER PRESET

Keep **TUNER PRESET** pressed until a bleep sound is heard.

2 – +



Search for the TV Station.
- If the required station is not displayed, press + or – again.

3

Select programme position.

4 SHIFT

Memorize the broadcast station.
- To memorize the other stations, repeat steps 2 to 4.

5 TUNER PRESET

Press **TUNER PRESET**.

Note:
- While tuning, your video may lock onto several weak stations from distant transmitters. Should this occur press + or – again until a strong station is received.

Channel Plan

It is recommended that you set the programme positions on the VTR to match the remote controller setting, so when using the Video Plus+ programming the correct broadcast station is recorded.
The table below shows the correct setting:

Programme position	TV station
1	BBC1
2	BBC2
3	ITV
4	Channel 4
A1, A2, 5~20	*Satellite input

*Satellite input
To receive satellite stations, the satellite receiver must be connected to the VTR and programme position must be set depending on the type of the connection made.

A1:	When the satellite receiver is connected to the AV1 socket
A2:	When the satellite receiver is connected to the Audio/Video input sockets (AV2)
5~20:	When the satellite receiver is connected by means of the RF coaxial cable. Follow the tuning procedure on page 10.

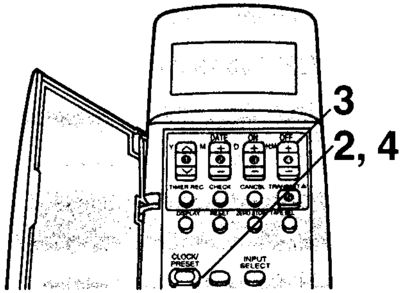
Tuning Procedure on the VTR

Stations can be tuned in by following the steps given below.
1 Press **TUNER PRESET** until a bleep sound is heard.
2 Search for the TV station by pressing + or –, and then press **NEXT**.
3 Select programme position by using + or –.
4 Press **SHIFT** to memorize the broadcast station.
- To memorize the other stations, press **NEXT** and then repeat steps 2 to 4.

5 Press **TUNER PRESET**.

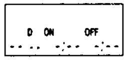
Setting the Satellite Position on the Remote Controller

The remote controller must be set to the selected programme position for the satellite receiver, in order to record satellite stations using Video Plus+ programming.
Note:
A satellite receiver cannot be operated using this unit's remote controller.
Preparation
Set the clock of the remote controller first. See page 12.



Operations **Display Symbols**

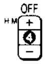
1 Open the door of the remote controller.



2 Keep **CLOCK/PRESET** pressed for 2 seconds or more and then press it again.

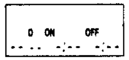
CLOCK/PRESET

3 Select A1, A2 or 5~20.



4 Press **CLOCK/PRESET**.

CLOCK PRESET



5 Close the door of the remote controller.

Setting the Clock of the VTR

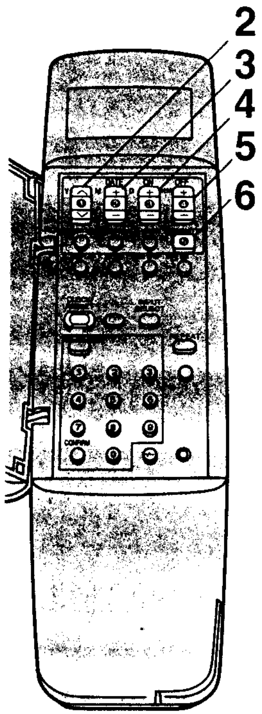
By setting the time on the remote controller's clock and then by transmitting this setting to the VTR, the clocks on both the remote controller and VTR display the same time.
The built-in digital clock employs the 24-hour system.

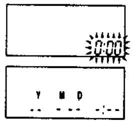
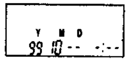
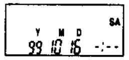
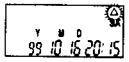
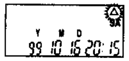
Preparation

- Turn on the VTR.
- Install the batteries in the remote controller. See page 20.

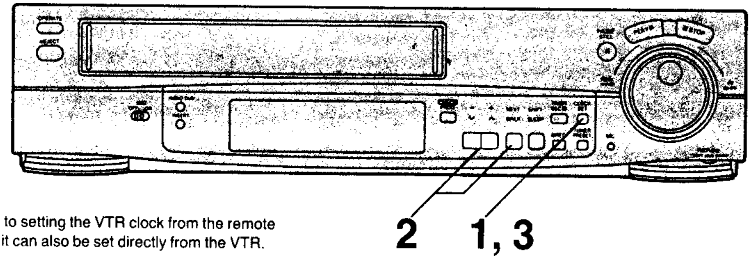
For Example:

Date; 16th, October, 1999
Time; 20:15



Operations	Display Symbols	
1		Open the door of the remote controller.
2 Y		Set **Year** "99".
3 DATE M + −		Set **Month** "10".
4 ON D + −		Set **Date** "16".
5 OFF H:M + −		Set **Time** "20:15". • When it is kept pressed, the indication changes in 30-minute steps.
6 TRANSMIT ▲		Press **TRANSMIT**.
7		Close the door of the remote controller.

Note:
To change the previous clock setting, press **CLOCK/ PRESET** for at least 2 seconds. The previous clock setting will be displayed. Then follow steps 2 to 7 above.



In addition to setting the VTR clock from the remote controller, it can also be set directly from the VTR.

Preparation

Turn on the VTR.

For Example:

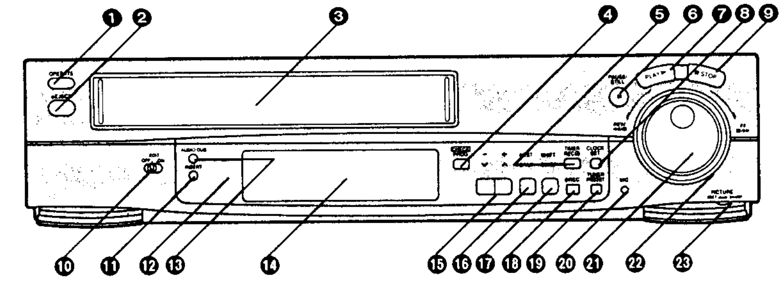
Date; 16th, October, 1999
Time; 20:15

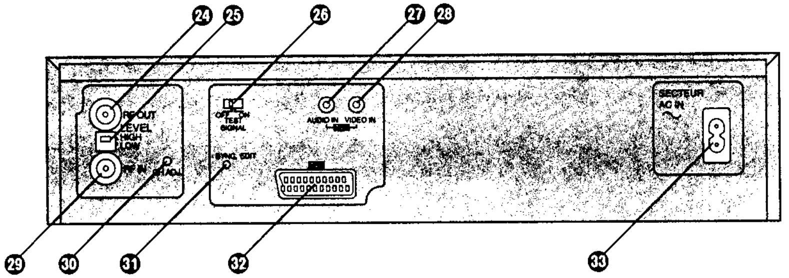
Operations		Display Symbols	
1	CLOCK SET		Keep **CLOCK SET** pressed until a bleep sound is heard.
2	Set each item by pressing + or − and **NEXT**.		
	− +		Set **Year** "99".
			Set **Month** "10".
	↓		Set **Date** "16".
	NEXT		Set **Hour** "20".
			Set **Minute** "15". • There is no need to press **NEXT**.
3	CLOCK SET		Press **CLOCK SET**. • The clock will start.

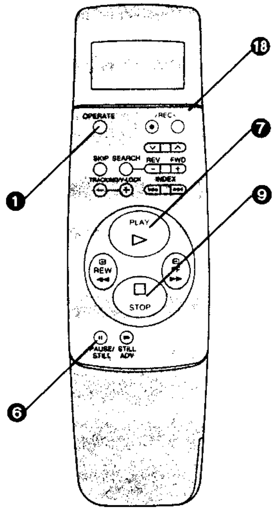
Time Reset Function
If the clock is less than two minutes slow or fast, it can easily be reset to the proper time.
For example: Resetting the clock to 12:00.00.
1 Press **CLOCK SET** at any time between 11:58.00 and 12:01.59 until the bleep sound is heard.
2 Press **CLOCK SET** again as soon as you hear the 12:00.00 time signal.

Note:
The clock operates for at least 60 minutes by its backup system in the event of power failure.

Controls and Connection Sockets







① **OPERATE**
To turn the VTR on and off.

② **EJECT**
To eject a video cassette.

③ **Cassette Compartment**
Insert a video cassette here.

④ **CHECK/PROG**
To select a timer programme number.
"1, 2, 3... or 8" is lit.
To display details of preset timer recording.

⑤ **TIMER REC**
To turn the timer recording function on and off.
⊡ is lit or not lit.
Once activating timer recording function, the normal VTR operation is not possible unless this button is set off.

⑥ **PAUSE/STILL**
During playback: Still picture.
During recording: To interrupt recording.

⑦ **PLAY**
To start playback. "▷" is lit.

⑧ **CLOCK SET**
To set the time.

⑨ **STOP**
To stop any playback or recording.

⑩ **EDIT**
OFF: For normal VTR operation.
ON: For dubbing.

⑪ **INSERT**
To set up the VTR for insert editing.
INSERT indicator lights up.

⑫ **Infra-red Remote Control Receiver Window**

⑬ **AUDIO DUB**
To set up the VTR for audio dubbing.
A.DUB indicator lights up.

⑭ **Display**

⑮ ∨ ∧/– +
To select the required programme position (TV station).
To set the clock and timer recording.

⑯ **SP/LP/NEXT**
To select the tape speed required for recording.
SP gives the best picture quality.
LP gives the longest recording time.
To proceed to the next item during setting procedure.

⑰ **SLEEP/SHIFT**
To set the time to turn off the VTR automatically.
To memorize programme position.

⑱ **REC**
To start a recording.

⑲ **TUNER PRESET**
To initiate TV station settings for the tuner.

⑳ **MIC**
To connect a microphone for recording.

㉑ **Jog Dial**
To locate any desired frame with utmost precision.

㉒ **Shuttle Ring**
In the stop mode: To rewind or fast forward the tape.
In the playback mode:
To search picture backward or forward.
In the still playback mode:
To adjust playback speed backward or forward.
In the rewind or fast forward mode:
To obtain high speed picture.

㉓ **PICTURE**
To make picture sharper (SHARP) or softer (SOFT).

㉔ **RF OUT**
To connect to the aerial terminal on a TV set.

㉕ **LEVEL**
Used to adjust the UHF aerial signal strength.
HIGH: For normal position.
LOW: If a diagonal pattern or stripes appear on the picture.

㉖ **TEST SIGNAL**
The test signal is transmitted on channel 36.

㉗ **AUDIO IN (AV2)**
To connect an audio cable to a video camera or another video recorder.

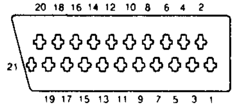
㉘ **VIDEO IN (AV2)**
To connect a video cable to a video camera or another video recorder.

㉙ **RF IN**
To connect to the external aerial.

㉚ **CH ADJ.**
To adjust the RF transmitting channel 30~42.

㉛ **SYNC. EDIT**
Connecting to a Movie Camera equipped with Synchro Edit Function.

㉜ **AV1**
This 21-pin scart terminal carries input and output signals for both picture and sound. TV sets equipped with a similar socket can be connected here.
This is also called Scart
Peritel
Euro Connector
Euro AV



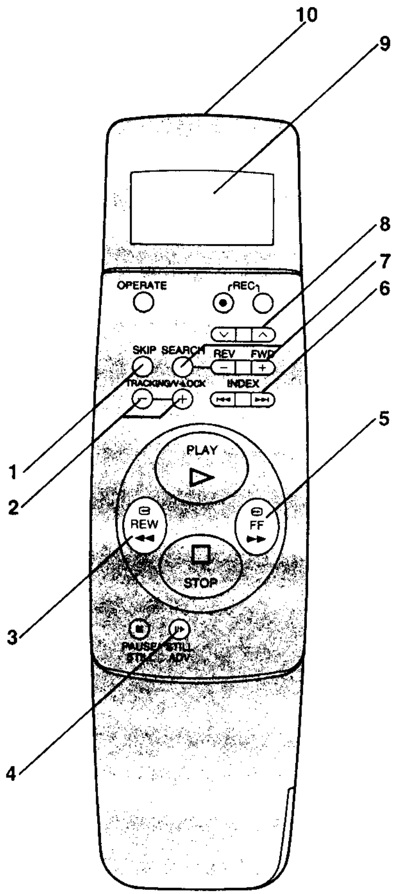
1 AUDIO OUTPUT
2 AUDIO INPUT
3 AUDIO OUTPUT
4 AUDIO GROUND
6 AUDIO INPUT

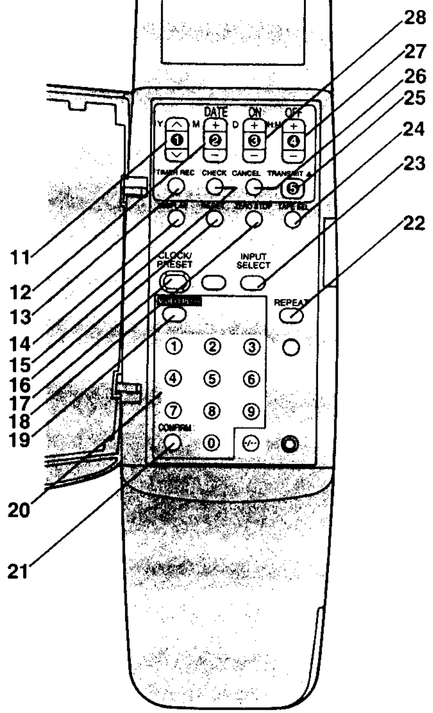
8 SWITCHING VOLTAGE
17 VIDEO GROUND
19 VIDEO OUTPUT
20 VIDEO INPUT
21 GROUND

No connection; 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 18

㉝ **AC IN~**
To connect to the main power supply.

Infra-red Remote Controller





1 SKIP
To start cue playback in 30 seconds interval during playback.
- Each press gives a 30 seconds time span up to 4 minutes.

2 TRACKING/V-LOCK
For manual tracking adjustment
The + and – buttons are used to adjust the tracking when, for example, noise bars on the picture are better removed manually than by the automatic digital tracking control. After making a manual adjustment, press both buttons together to return to automatic digital tracking control.

For slow tracking adjustment
When noise bars appear during Still, Still Advance or Slow playback, switch over to slow playback and adjust with the "+" or "–" button to reduce the noise bars.

For vertical locking adjustment
Use the + and – buttons to minimize any vertical jitter during still-picture playback.

3 REW (REWIND)

In the stop mode:	To rewind the tape.
In the playback mode:	To search backward.
In the rewind mode:	To obtain high speed picture.

"◁◁" is lit.

4 STILL ADV
To advance a still picture during still playback.

5 FF (FAST FORWARD)

In the stop mode:	To fast forward the tape.
In the playback mode:	To search forward.
In the fast forward mode:	To obtain high speed picture.

"▷▷" is lit.

6 INDEX
For the index search function.

7 SEARCH
To adjust the playback speed backward or forward.

8 ∨ ∧
To select the required programme position (TV station).

9 Display

10 Infra-red Transmitter
The programming data are transmitted from here to the VTR.

11 ∧ ∨ (Y)
- To programme a timer recording.
- To set the clock.

12 DATE (M)
- To programme a timer recording.
- To set the clock.

13 TIMER REC
To turn the timer recording function on and off.
◷ is lit or not lit.

14 DISPLAY
To change the indication on the VTR Display.
→ Clock → Counter → Remaining Tape Time

15 CHECK
To check timer programmes.

16 RESET
To reset the tape counter (elapsed time) to "0:00.00".
- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

17 CLOCK/PRESET
- To set the clock.
- To set the satellite position.

18 ZERO STOP
For the zero stop function.

19 VIDEO PLUS
To programme a Video Plus+ PlusCode.

20 Programme Position Selector Buttons
- To select the programme positions.

9: ⑨
19: (-/--) – ① – ⑨

- To enter a PlusCode.

21 CONFIRM
To convert the data of a PlusCode.

22 REPEAT
For the repeat playback function.

23 INPUT SELECT
To select the "A1" or "A2" external recording source.

24 TAPE SEL
To set the cassette tape length in order to obtain correct indication of the remaining tape time.
E195: For E30, -60, -80, -120, -180 and -195 tapes.
E240: For E240 tape.
E260: For E260 tape.

25 TRANSMIT
To transmit the data that has been set on the remote controller to the VTR.

26 CANCEL
To cancel the settings made for a timer recording.

27 OFF (H:M)
- To programme a timer recording.
- To set the clock.
- To set the satellite position.

28 ON (D)
- To programme a timer recording.
- To set the clock.

Power Source for the Remote Controller

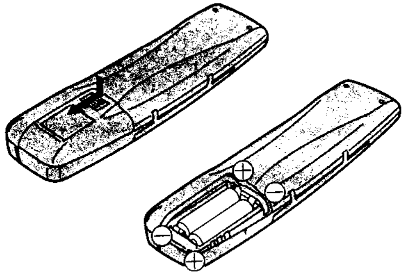
The remote controller is powered by 2 "UM3" or "R6" size batteries. The life of the batteries is about one year, although this depends on the frequency of use.

- When whatever appears on the display becomes faint, please replace the batteries with new ones.

Precautions for Battery Replacement

- Load the new batteries with their polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to the batteries, or an internal short-circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

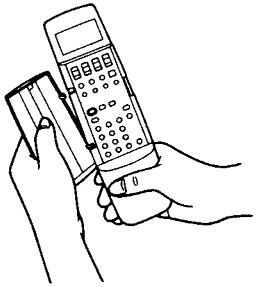
Installing the Batteries



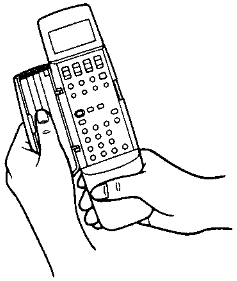
How to refit the Remote Controller Door

If the door of the remote controller is forced to open too much, it may come off. In this case, please follow the steps below.

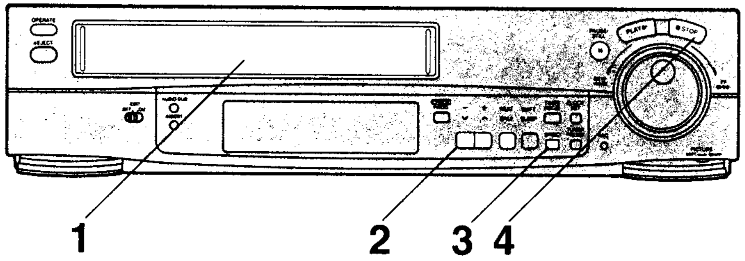
1 Refit the lower part of the door.

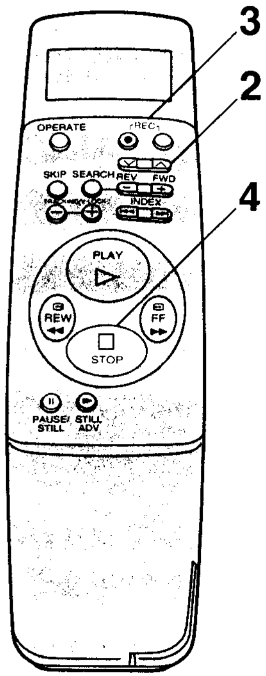


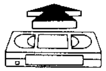
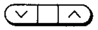
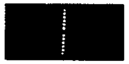
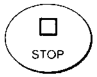
2 Insert the upper part of the door until it locks with a click.

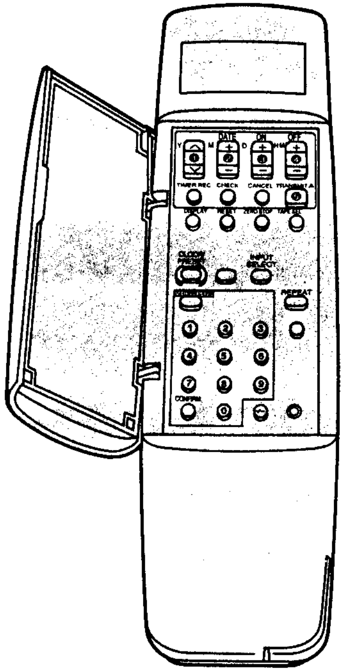


On-the-spot Recording




3
2
4
OPERATE
REC
SKIP
SEARCH
REV
FWD
INDEX
PLAY
REW
FF
STOP
PAUSE/STILL
STILL ADV

Operations	Display Symbols	
1 		Insert a cassette tape. • If it has already been inserted, press **OPERATE** to turn the VTR on.
2 		Select TV station.
3		Start recording.
4 		Stop recording.


DATE
ON
OFF
REPEAT

Notes:

- When a video cassette with a broken off tab is inserted, the "REC" indication will flash to indicate that recording is not possible.
- The recording pause mode will be automatically released after 5 minutes, and be back to the stop mode.

To select the Desired Tape Speed

Press **SP/LP** before recording.

To interrupt Recording

Press **PAUSE/STILL** during recording.
Press again to continue recording.

PAUSE/STILL

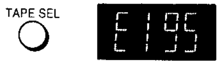
To record One TV Programme while Viewing Another Programme

1 Refer to the on-the-spot recording operations steps 1 to 3.

2 Select the TV programme on your TV set you wish to view at the present time.

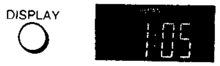
To display the Approximate Remaining Tape Time

1 Press **TAPE SEL** to select the corresponding cassette tape length.

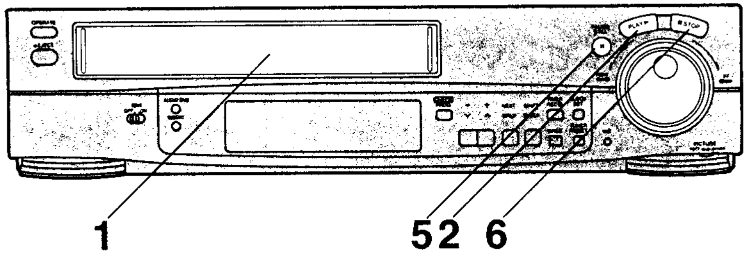

TAPE SEL
E 195

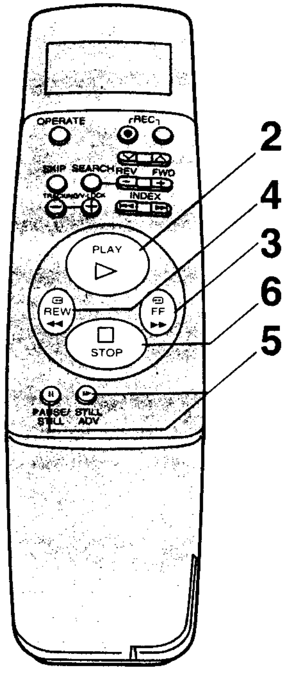
E195: For E30, -60, -80, -120, -180 and -195 tapes.
E240: For E240 tape.
E260: For E260 tape.

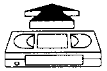
2 Press **DISPLAY**.

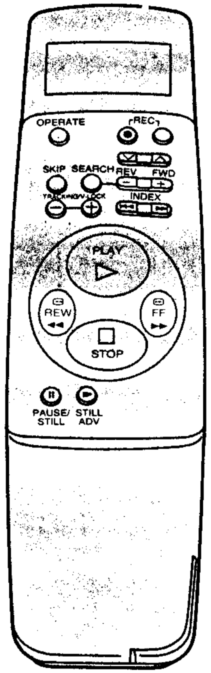

DISPLAY
1:05

Playback




OPERATE
REC
SKIP
SEARCH
REV
FWD
TRACKING/V-LOCK
INDEX
PLAY
REW
FF
STOP
PAUSE/STILL
STILL ADV
2
4
3
6
5

Operations	Display Symbols	
1 		Insert a recorded cassette tape.
2 PLAY ▷	▷	Start viewing the picture.
3 FF ▶▶	▷▷	Search forward by tapping **FF**. • To change back to normal playback, press **PLAY**.
4 REW ◀◀	◁◁	Search backward by tapping **REW**. • To change back to normal playback, press **PLAY**.
5 PAUSE/STILL STILL ADV	❚❚	View a still picture. • To advance one frame of the still picture, press **STILL ADV**. • To continue the normal playback, press **PLAY** or **PAUSE/STILL**.
6 ◻ STOP		Stop viewing the picture.


OPERATE
REC
SKIP
SEARCH
REV
FWD
TRACKING/V-LOCK
INDEX
PLAY
REW
FF
STOP
PAUSE/STILL
STILL ADV

Note:
Cue, review or slow playback will be automatically released after 10 minutes, and still playback after 5 minutes.

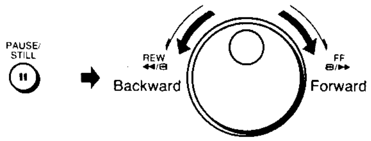
Other Playback Functions

To change the Playback Speed

Using Shuttle Ring:

1 Press **PAUSE/STILL**.

2 Rotate Shuttle Ring.


PAUSE/STILL
REW
FF
Backward
Forward

Using Remote Controller:

1 Press **SEARCH**.

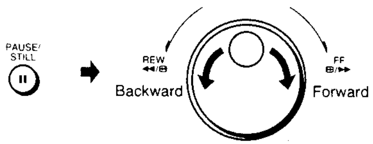
2 Press **FWD** or **REV** repeatedly.
FWD: To increase the playback speed forward
REV: To increase the playback speed backward

SEARCH
REV
FWD
−
+

To locate the Desired Picture exactly

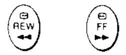
1 Press **PAUSE/STILL**.

2 Turn Jog Dial.

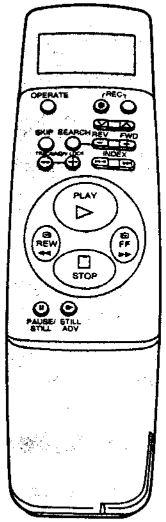

PAUSE/STILL
REW
FF
Backward
Forward

To obtain High Speed Picture during Fast Forward or Rewind

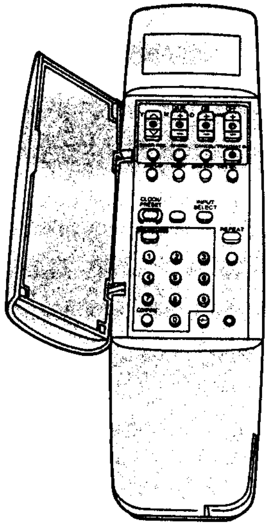
Keep **FF** pressed during fast forward.
Keep **REW** pressed during rewind.



- The same operation can also be performed by turning the Shuttle Ring.



OPERATE
REC
SKIP
SEARCH
REV
FWD
INDEX
PLAY
REW
FF
STOP
PAUSE/STILL
STILL ADV



To Skip Scene

Press **SKIP** during playback.

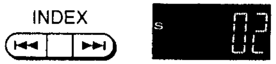
- The following 30 seconds will be skipped.
- Each press gives a 30 seconds time span up to 4 minutes.

To find the Beginning of Each Recording

For example:

Searching for the 2nd recorded segment in the forward direction.

Press **INDEX ►►I** twice.



- After finding the specific recorded segment, playback starts automatically.
- For the reverse direction, press **INDEX I◄◄**.
- Up to 20 programmes can be searched for in both directions.
- When the incorrect numerical data has been entered, press **STOP** and enter the correct data.

Recording Index Signals

Index signals are recorded in following cases.

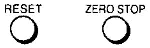
WRITE indicator appears on the Display.

- When a recording is started by pressing **REC**.
- When **REC** is pressed during recording.
- When timer recording is activated.

To return to a Specified Scene

1 Press **RESET** to set the counter to 0:00.00.

2 After playback, press **ZERO STOP** in the stop mode.

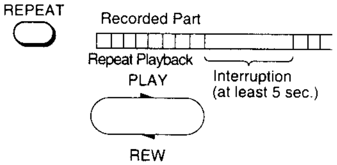


RESET
ZERO STOP

- The tape will be rewound or fast forwarded to 0:00.00.

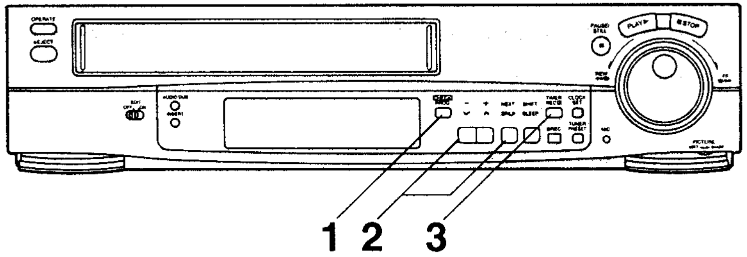
To playback a Recorded Part repeatedly

Press **REPEAT** in the stop mode.



REPEAT
Recorded Part
Repeat Playback
Interruption
(at least 5 sec.)
PLAY
REW

Timer Recording



Introduction

Up to 8 timer programmes can be recorded up to one month in advance by setting the timer, including daily and weekly programmes.

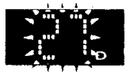
Preparation

Insert a cassette tape with an intact erasure prevention tab.

For Example:

Timer programme number;	1
Programme position (channel);	2
Date;	27th, October
Starting time;	20:02
Ending time;	21:30

(present date; 16th October)

	Operations	Display Symbols	
1	CHECK PROG		Select **Timer programme number** "1".
2	Set each item by pressing + or – and **NEXT**.		
	– +		Set **Programme position** (channel) "2".
			Set **Date** "27". •For daily and weekly recording, see next page.
			Set **Starting time** (hour) "20".
	↓		Set **Starting time** (minute) "02".
	NEXT		Set **Ending time** (hour) "21".
			Set **Ending time** (minute) "30". •There is no need to press **NEXT**.
3	TIMER REC		To activate timer recording, press **TIMER REC**.

Setting for Daily and Weekly Timer Recording

In the Date setting step, press – repeatedly until the desired day(days) is displayed.

Daily recording From Sunday to Saturday	SU MO TU WE TH FR SA
From Monday to Saturday	MO TU WE TH FR SA
From Monday to Friday	MO TU WE TH FR
Weekly recording For example, Sunday	SU

Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the AV1 socket or the Audio/Video input sockets, select the A1 or A2 indicator for the programme position.

A1: Through the AV1 socket

A2: Through the Audio/Video input sockets (AV2)

Selecting the Desired Tape Speed

After step 2, press **NEXT** and select SP or LP by pressing + or –.

Setting other Programmes in Succession

Repeat steps 1 and 2.

Checking a Timer Programme

Select the timer programme number to be checked by pressing **CHECK/PROG**.

Cancelling a Timer Programme

1. Release from the standby mode by pressing **TIMER REC**.
2. Select the timer programme number to be canceled by pressing **CHECK/PROG**.
3. Press + and – simultaneously for more than 3 seconds.

Note:

If a timer recording is not performed to the end (due to insufficient tape or cancellation by the user), the programmed timer recording data will be cancelled from the memory by 4 a.m. two days later.

However, if the Timer Record Function is activated at that time, the programmed timer recording data will be cancelled at 4 a.m. the next day.

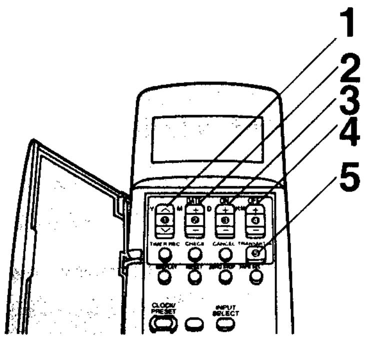
Optional Function

PDC (Programme Delivery Control)

The Programme Delivery Control (PDC) is a very convenient system which assures that the TV programmes you have programmed for timer recording will be recorded exactly from beginning to end, even if the actual broadcasting time differs from the scheduled time due to delayed start or extension of the programme duration. Also, if a programme is interrupted and, for example, some special news are inserted, the recording will also be interrupted automatically and resumed when the programme continues.

- This model is not equipped with PDC function. The PDC function becomes operative when the VTR is equipped with the optional PDC decoder. Consult your authorized video dealer.
- If the VTR is equipped with the PDC decoder, the PDC indicator lights when the correct PDC signals are transmitted from the broadcasting station.
- When the unit is set for programmed recording, the PDC indicator lights whether or not PDC signals are transmitted. This indicates that the recording has been programmed with PDC. To programme a recording without PDC, press **SHIFT**: this cancels the PDC function and turns off the PDC indicator.
- Since PDC signals are received when a recording is programmed using PDC, the power of the unit's tuner section is turned on and the programmed broadcasting is received. When a multiple number of programmes have been programmed for timer recording, all of the broadcasts concerned will be received in sequence. These broadcast pictures can be seen on the video playback channel and AV out (no sound).
- If the actual broadcasting times of timer recordings overlap (regardless of whether they are PDC-controlled), the recording that starts first has always priority, and the recording of the later beginning programme will start only after the first timer recording has finished.
- When the PDC signal drops out because the broadcast signal is weak, or when a broadcasting station does not transmit a regular PDC signal, the timer recording will be performed in the normal mode (without PDC) even if it was programmed for PDC.
  In this case, even if the timer recording is performed, whatever has been programmed will not be cancelled at that particular time but at 4 a.m. on the following day.

Using the Remote Controller



For Example:

Programme position (channel);	2
Date;	27th, October
Starting time;	20:02
Ending time;	21:30

Preparation

- Insert a cassette tape with an intact erasure prevention tab.
- Open the door of the remote controller.

Operations **Display Symbols**

1 Set Programme position (channel) "2".

❶

D ON OFF
2-- -:-- -:--

2 Set Date "27".

DATE + ❷ −

WE
D ON OFF
227 -:-- -:--

3 Set Starting time "20:02".

ON + ❸ −

WE
D ON OFF
22720:02 -:--

- When it is kept pressed, the indication changes in 30-minute steps.

4 Set Ending time "21:30".

OFF + ❹ −

WE
D ON OFF
22720:02 21:30

5 Press **TRANSMIT**.

TRANSMIT ▲ ❺

6 Close the door of the remote controller.

Daily Timer Recording

For this timer function, several groups of days can be selected.

Ⓐ Daily recording from Sunday to Saturday

Ⓑ Daily recording from Monday to Saturday

Ⓒ Daily recording from Monday to Friday

In step 3, select the desired days by pressing **DATE** –.
For Example, Ⓐ

SU MO TU WE TH FR SA
ON OFF
2 -:-- -:--

Weekly Timer Recording

In step 3, select the desired day by pressing **DATE** –.
For example, SU (Sunday)

SU
ON OFF
2 -:-- -:--

Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the AV1 socket or the Audio/Video input sockets, select the A1 or A2 indicator in step 1 for the programme position.
A1: Through the AV1 socket
A2: Through the Audio/Video input sockets (AV2)

D ON OFF
A1-- -:-- -:--

Checking a Timer Programme

- The VTR must be turned on, or the timer recording indicator "⌚" is lit.

Press **CHECK** repeatedly until the desired timer programme number is displayed.

CHECK ○

Cancelling a Timer Programme

1 Press **CHECK** repeatedly until the desired timer programme number is displayed.

CHECK ○

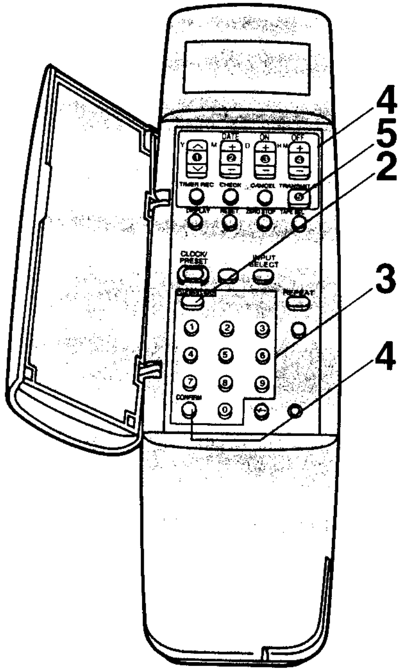
2 Press **CANCEL**.

CANCEL ○

Note:
The tape speed (SP/LP) cannot be set with the remote controller. Before programming, select SP or LP on the VTR.

Programming the Video Plus+ PlusCode

Programming is now easier than ever: simply enter the PlusCode provided in the programme schedule column carried by newspapers and magazines.
PlusCodes are numbers which are assigned to each programme listed in the TV programme schedule carried in newspapers and TV guides. When these codes are entered and **TRANSMIT** is pressed, the codes are converted into the actual programming and sent to the VTR.



Note:
A satellite receiver cannot be operated using this unit's remote controller.

Preparation

- Insert a cassette tape with an intact erasure prevention tab.
- Set the programme positions on both the VTR and remote controller as shown on page11.

Operations **Display Symbols**

1 Open the door of the remote controller.

D ON OFF
---- -:-- -:--

2 Press **VIDEO PLUS**.

VIDEO PLUS

VIDEO PLUS
-- -- -- --

3 Enter a PlusCode.
Example: 920216

VIDEO PLUS
92 02 16 --

4 Press **CONFIRM** to check that the code corresponds to the right programme.

CONFIRM ○

SU
D ON OFF
4 1 19:10 19:55

- To make any corrections, use buttons ❶~❹.

5 Press **TRANSMIT**.

TRANSMIT ▲ ❺

6 Close the door of the remote controller.

Notes:

- When the PlusCode is used for programming, the recording time may be slightly longer than the actual programme time.
- Repeat steps 2 to 4 if "Err" appears on the remote controller.
- When programming two or more programmes, repeat steps 2 to 5 after pressing **TRANSMIT**.
- The procedures for checking and canceling whatever has been programmed are the same as for remote control programming.
- The tape speed (SP/LP) cannot be set with the remote controller. Before programming, select SP or LP on the VTR.

Editing

Assembly Editing

This function can be used to make up an edited tape from other recordings or video sources.

A new scene can be added to the end of a previous one.

Preparation

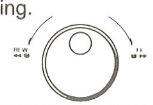
- Connect a movie camera or another VTR to this VTR as shown.
- Insert a recorded cassette tape with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1 or A2.
  A1: Through AV1 socket
  A2: Through Audio/Video input sockets (AV2)
- Set **EDIT** to ON.

Operations

1 Press **PAUSE/STILL**.

PAUSE/
STILL

2 Search for the end of the previous recording.

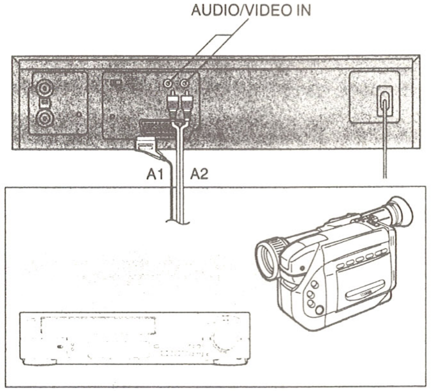


3 Set for the new recording by pressing **REC**.

4 Start the new recording by pressing **PAUSE/STILL** again.

PAUSE/
STILL

Note:
Set **EDIT** to OFF for ordinary use of the VTR.



Synchronized Editing

It is possible to synchronize the playback start and stop of the Movie Camera with the recording start and stop of this VTR.

- Connect a Movie Camera to this VTR with Synchro Connection Cord (optional).

1 Put the VTR in the recording pause mode by pressing **REC** and **PAUSE/STILL**.

2 Put the Movie Camera in the still playback mode at the point where you want to start editing.

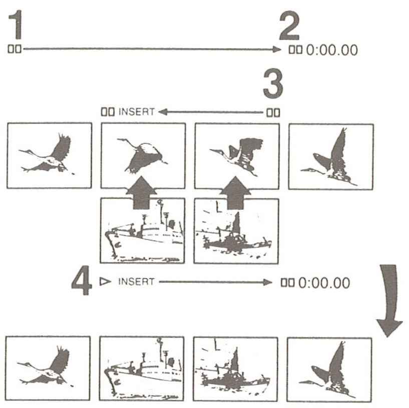
3 Press **PAUSE/STILL** on the VTR.
- The Movie Camera changes over to the playback mode and the dubbing will start automatically.

Synchronized Editing between the VTRs
When editing from another VTR equipped with Synchro Edit Socket, synchronized start and stop of both VTRs can be activated from this VTR.

The operation is the same as described for synchronized editing from a Movie Camera.

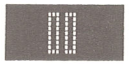
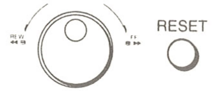
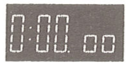
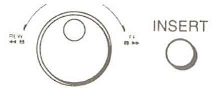
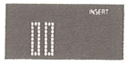
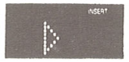
Insert Editing

This editing method allows a new recorded segment to be inserted into an existing recording to replace an existing segment of the same length.



Preparation

- Insert a recorded cassette with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1 or A2.
- Set **EDIT** to ON.

Operations	Display Symbols	
1		Press **PAUSE/STILL**.
2 		Search for the Edit out (ending) point, and set the counter to 0:00.00 by pressing **RESET**.
3 		Search for the Edit in (starting) point, and press **INSERT**. • If you want to replace the sound too, press **AUDIO DUB** as well.
4		Start insert editing by pressing **PAUSE/STILL**. • The insert editing will finish when the counter reaches 0:00.00.

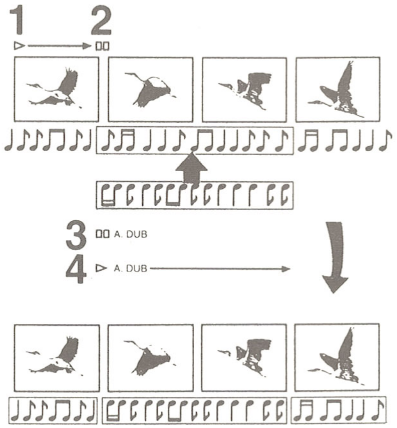
Note:
Insert Editing cannot be used on blank sections of a tape. In this case, use Assembly Editing first.

Audio Dubbing

This enables you to record new sound on a previously recorded tape.

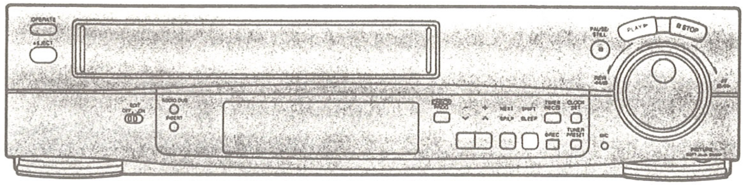
Preparation

- Insert a recorded cassette with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1 or A2.



Operations		Display Symbols	
1	PLAY▸	▷	Search for the starting point for audio dubbing.
2	PAUSE/STILL	❚❚	Press **PAUSE/STILL** at the starting point.
3	AUDIO DUB	A.DUB ❚❚	Set for audio dubbing by pressing **AUDIO DUB**.
4	PAUSE/STILL	A.DUB ▷	Start recording the new sound by pressing **PAUSE/STILL**. •Stop recording by pressing **STOP**.

Other Functions



Playback of NTSC Tape

Tapes recorded in the NTSC system can be played back with this VTR via a PAL system TV set.

- NTSC is the TV broadcasting system used in U.S.A., Japan, and some other countries.
  PAL is another TV broadcasting system used in U.K., Germany and many other parts of the world.
  This VTR will not replay or record tapes on the SECAM broadcasting system.
  NTSC 4.43 is a modified version of the PAL broadcasting system to allow most UK TV's to reproduce a colour picture when an NTSC tape is replayed on this VTR. However due to the system change, the picture may shrink, roll or not reproduce colour on some televisions.

Automatic VTR Functions

Automatic Playback

When a cassette without an erasure prevention tab is inserted, the VTR starts playback automatically.

VTR-off Playback

When the VTR is off, an inserted cassette can be played back by pressing **PLAY**.

Automatic Rewinding

When the tape reaches its end during recording (except for timer recording) or playback, it will automatically be rewound to the beginning.

Automatic Switching Off and Ejection

When the VTR is switched off, an inserted cassette can be ejected simply by pressing **EJECT**. The VTR will eject the cassette and automatically turn itself off again.

Automatic VTR Off Time Setting

Press **SLEEP** for the desired time.

SLEEP	OFF 0:30
☐	

- Each press gives a 30 minutes time span up to 9 hours.
- To cancel the setting time, press **SLEEP** repeatedly to set 0:00.

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2–1–1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps of the cabinet parts and the circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

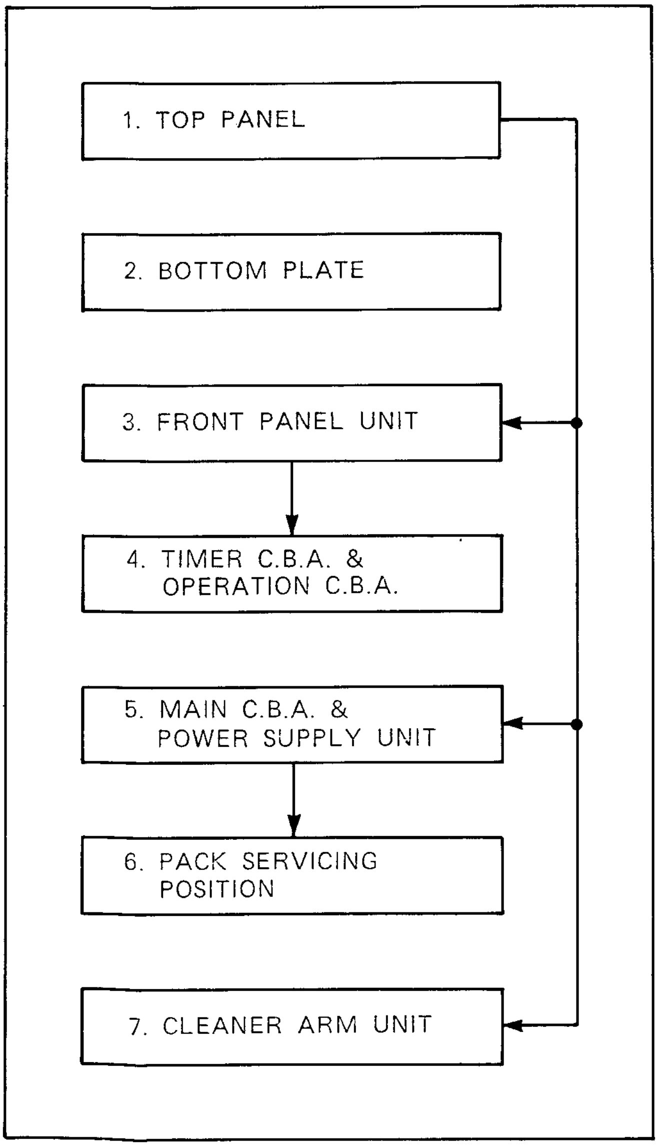

1. TOP PANEL
2. BOTTOM PLATE
3. FRONT PANEL UNIT
4. TIMER C.B.A. & OPERATION C.B.A.
5. MAIN C.B.A. & POWER SUPPLY UNIT
6. PACK SERVICING POSITION
7. CLEANER ARM UNIT

Fig. D1

2–1–2. DETAIL OF DISASSEMBLY METHOD

1. REMOVAL OF THE TOP PANEL

Removal.....2 Screws(A)
(NV–SD30B)
Removal.....4 Screws(A)
(NV–SD30EG,SD40EG/B)

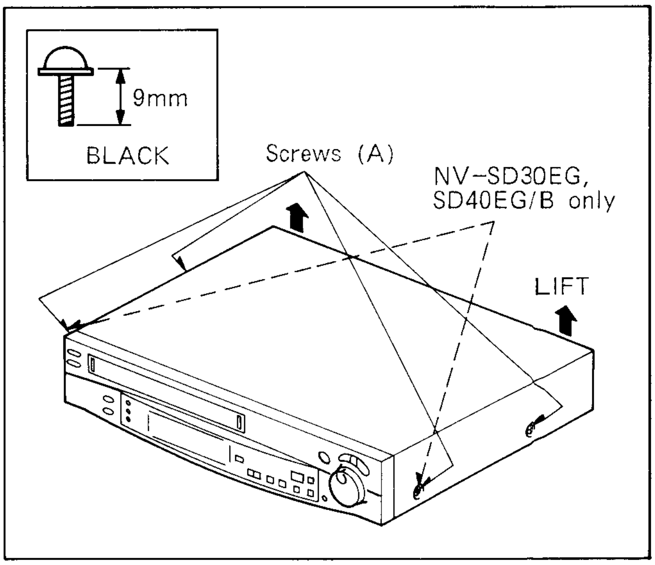

9mm
BLACK
Screws (A)
NV–SD30EG, SD40EG/B only
LIFT

Fig. D2

2. REMOVAL OF THE BOTTOM PLATE

Remove.....6 Screws(B)

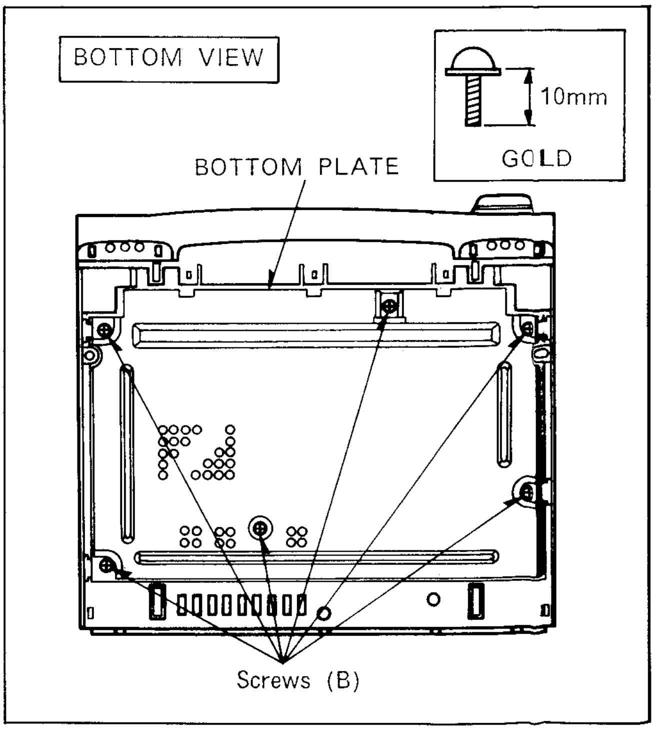

BOTTOM VIEW
10mm
GOLD
BOTTOM PLATE
Screws (B)

Fig. D3

3. REMOVAL OF THE FRONT PANEL UNIT

Pull OUT.....Jog/Shuttle Dial
Remove.....Screw(C)
Unlock.....6 Tabs(D)

CAUTION:
Confirm that the Jog/Shuttle Dial is pulled out before removeing the Front Panel Unit.

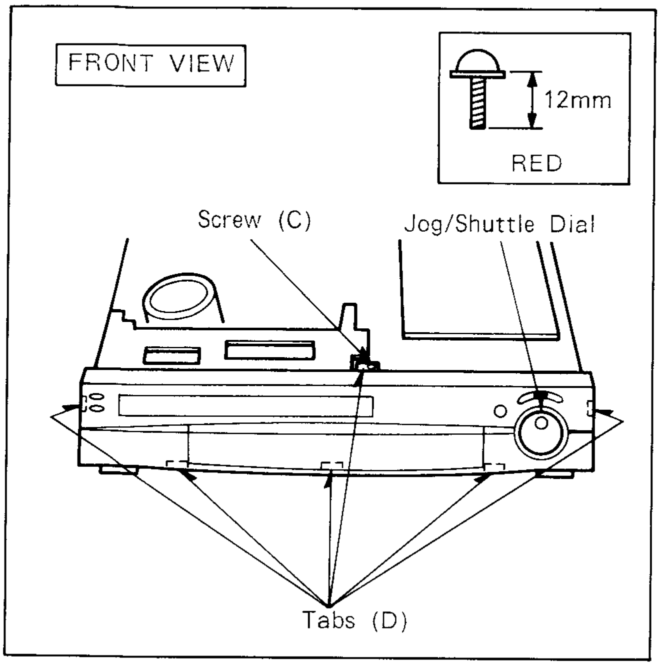

FRONT VIEW
12mm
RED
Screw (C)
Jog/Shuttle Dial
Tabs (D)

Fig. D4

4. REMOVAL OF THE TIMER C.B.A. & OPERATION C.B.A.

REMOVAL OF THE TIMER C.B.A.

Disconnect.....Connector(E)
Unlock.....6 Tabs(F)

REMOVAL OF THE OPERATION C.B.A. (NV-SD40EG/B only)

Disconnect.....Connector(E)
Unlock.....2 Tabs(G)

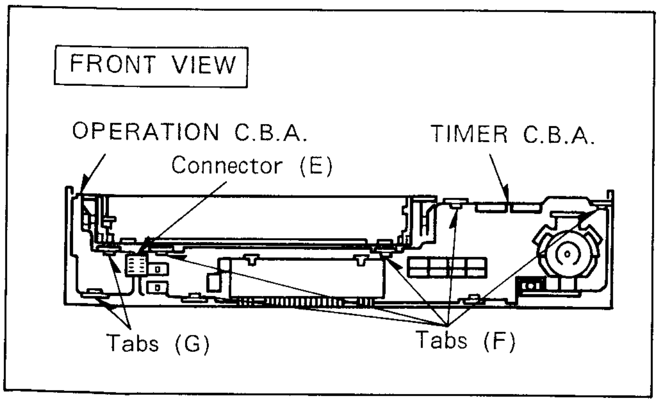

FRONT VIEW
OPERATION C.B.A.
Connector (E)
TIMER C.B.A.
Tabs (G)
Tabs (F)

Fig. D5

5. REMOVAL OF THE MAIN C.B.A. & POWER SUPPLY UNIT

REMOVAL OF THE MAIN C.B.A.

Remove.....4 Screws(H),(I)
Unlock.....4 Tabs(J)

REMOVAL OF THE POWER SUPPLY UNIT

Remove.....2 Screws(H),(K)

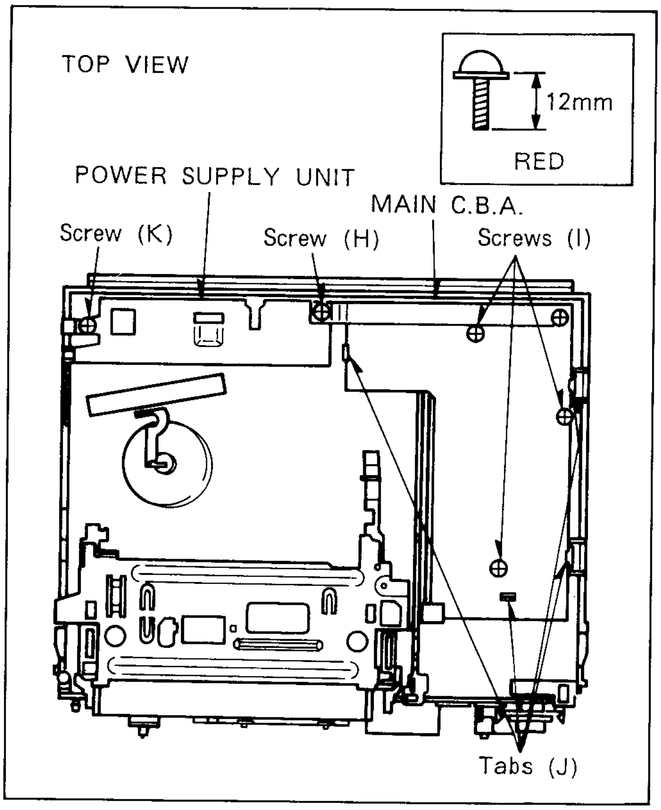

TOP VIEW
12mm
RED
POWER SUPPLY UNIT
MAIN C.B.A.
Screw (K)
Screw (H)
Screws (I)
Tabs (J)

Fig. D6

6. PACK SERVICING POSITION

CAUTION:
Confirm that there is insulation between Mechanical Chassis and Main C.B.A. before connecting Mains AC.

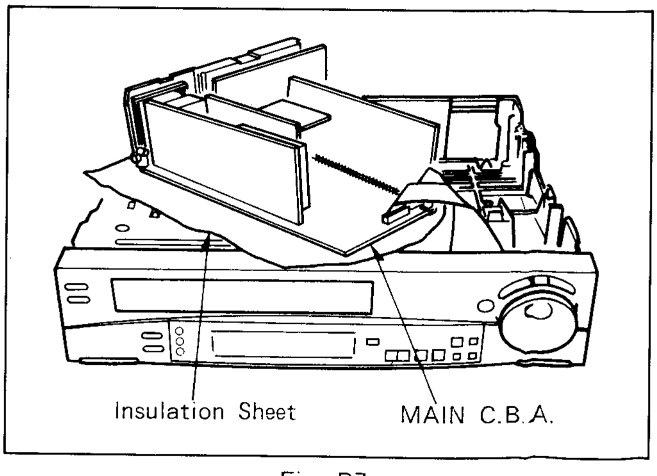

Insulation Sheet
MAIN C.B.A.

Fig. D7

7. REMOVAL OF THE CLEANER ARM UNIT

1. Unlock the locking portion(L).
2. Pull up the Cleaner Arm Unit.

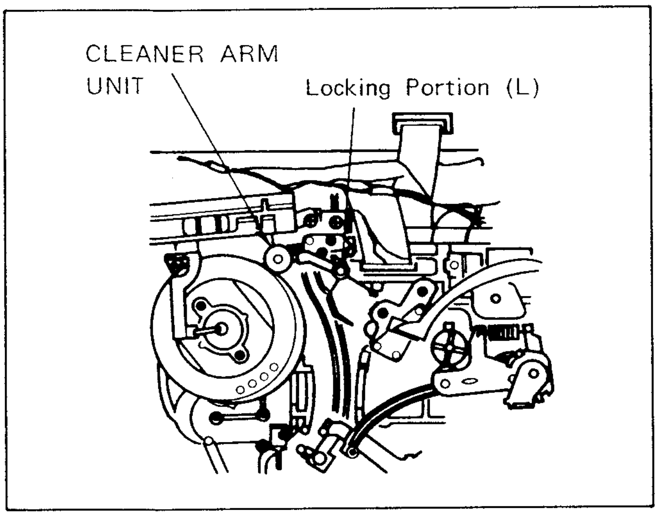


Fig. D8

2-2. MECHANICAL ADJUSTMENT PROCEDURES

2-2-1. TENSION POST POSITION ADJUSTMENT

(Equipment Required)
Hex Wrench (VFK0326)

1. Disconnect the AC plug.
2. Remove the TOP PLATE and CASSETTE HOLDER.
3. Turn the LOADING MOTOR until the loading completes.
4. Adjust the hole of TENSION BAND FASTENER by hex wrench so that the left edge of IMPEDANCE ROLLER and TENSION ARM UNIT as shown in Fig.M1.

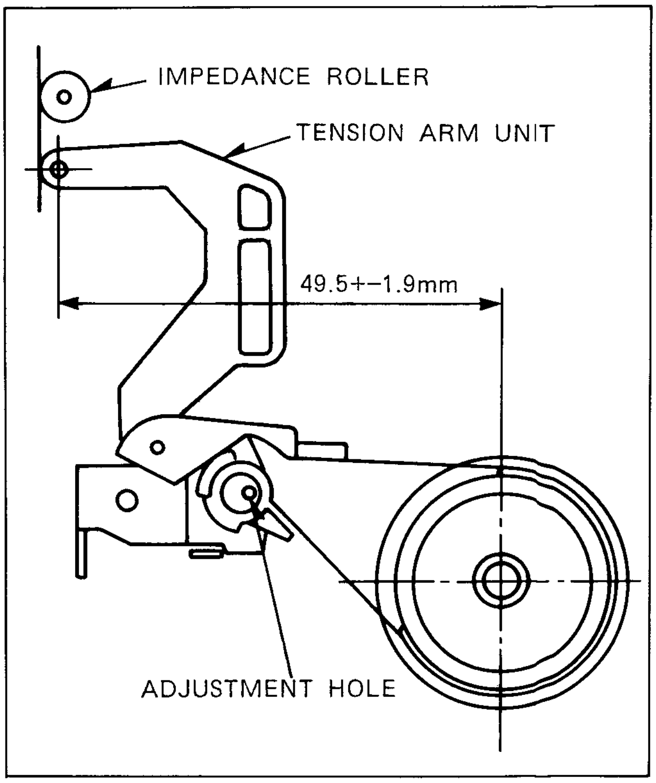


Fig. M1

2-2-2. BACK TENSION ADJUSTMENT

(Equipment Required)
Back Tension Meter (VFK0132)
VHS Cassette Tape (180 minutes tape:PAL)
(120 minutes tape:NTSC)

(Specification)
22.5-27.5g

1. Playback the cassette tape from the beginning and wait until the tape movement get the stabilization.
(for approx. 10~20 seconds)
2. Insert the Back tension Meter into the path of a tape, and measure the back tension to be within specification as shown in Fig.M2.

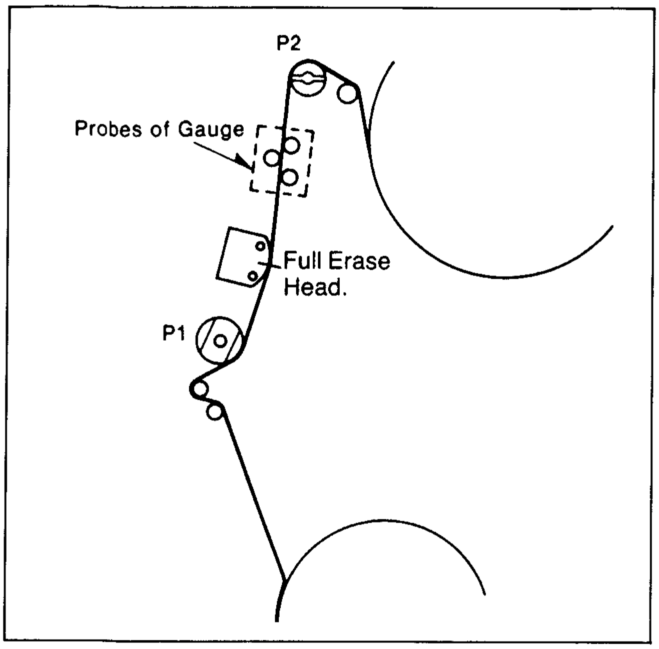

P2
Probes of Gauge
Full Erase Head.
P1

Fig. M2

3. If it is out of specification, change the spring notch as shown in Fig.M3.

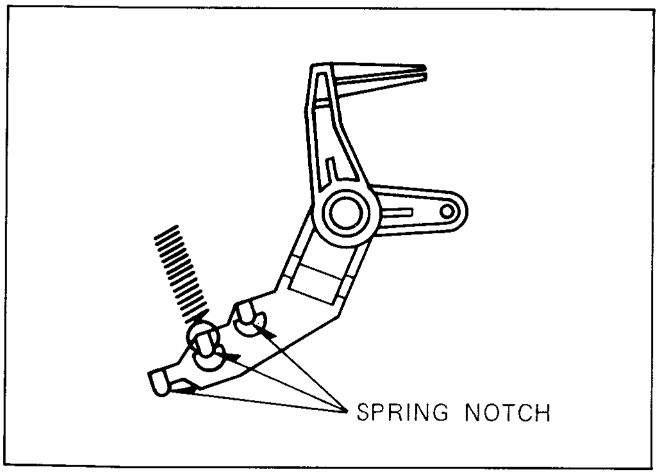

SPRING NOTCH

Fig. M3

2–2–3. P2 AND P3 POSTS ADJUSTMENT (PREADJUSTMENT)

(Equipment Required)
Post Adjustment Screwdriver (VFK0329)

1. Remove the TOP PLATE and CASSETTE HOLDER.
2. Turn the LOADING MOTOR until the unloading completes.
3. Loosen the fixing screw of P2 and P3 POSTS.
4. Rotate the P2 and P3 POSTS clockwise to the end.
5. Rotate the P2 and P3 POSTS twice counterclockwise.

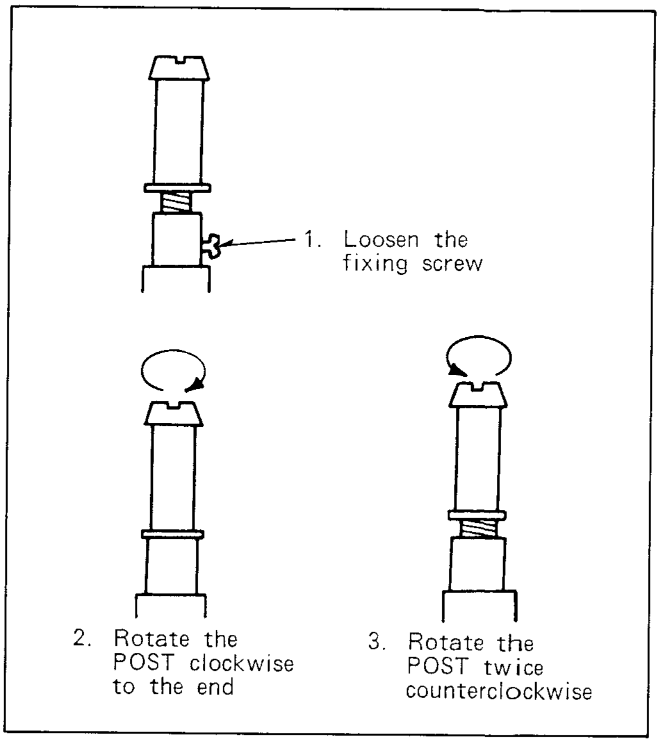

1. Loosen the fixing screw
2. Rotate the POST clockwise to the end
3. Rotate the POST twice counterclockwise

Fig. M4

6. Install the TOP PLATE and CASSETTE HOLDER
7. Playback the cassette tape and make sure that the edges of the tape are not curling at the bottom or top end of the P1, P2, P3 and P4 POSTS as shown in Fig.M5.

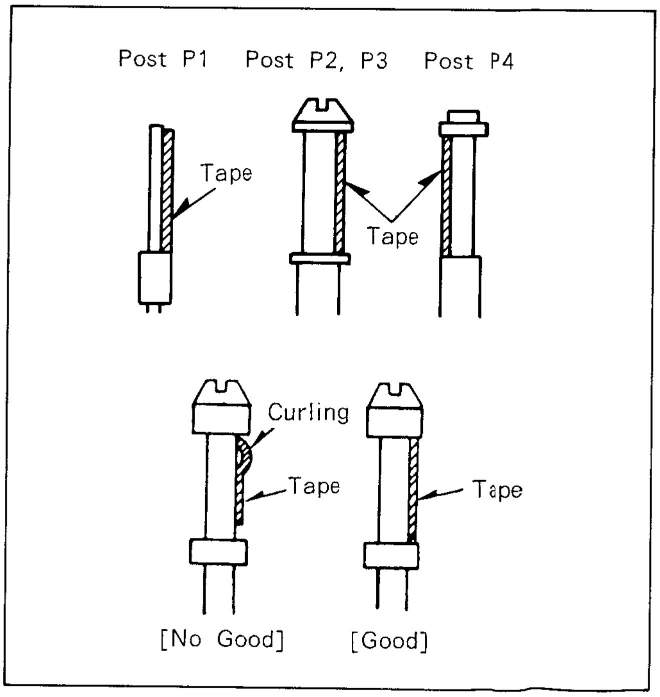

Post P1
Post P2, P3
Post P4
Tape
Tape
Curling
Tape
Tape
[No Good]
[Good]

Fig. M5

8. If curling appears, readjusts the P2 and P3 POSTS.

2-2-4. TAPE INTERCHANGEABILITY ADJUSTMENT

Carry out the following procedures for Tape interchangeability Adjustment to do it correctly and smoothly.

(1) Adjustment of P2 and P3 Posts.
(2) Height Adjustment of A/C Head (1).
(3) Height Adjustment of A/C Head (2).
(4) Fine-Adjustment of A/C Head
(5) Horizontal Position Adjustment of A/C Head.

If the Tape Interchangeability Adjustment is not perfect, repeat the above procedures from (1) to (5).

CAUTIONS:
To make a Adjustment Mode for Tape Interchangeability, cut a Jumper Wire as shown in Fig.M6. Auto Tracking is turened off.

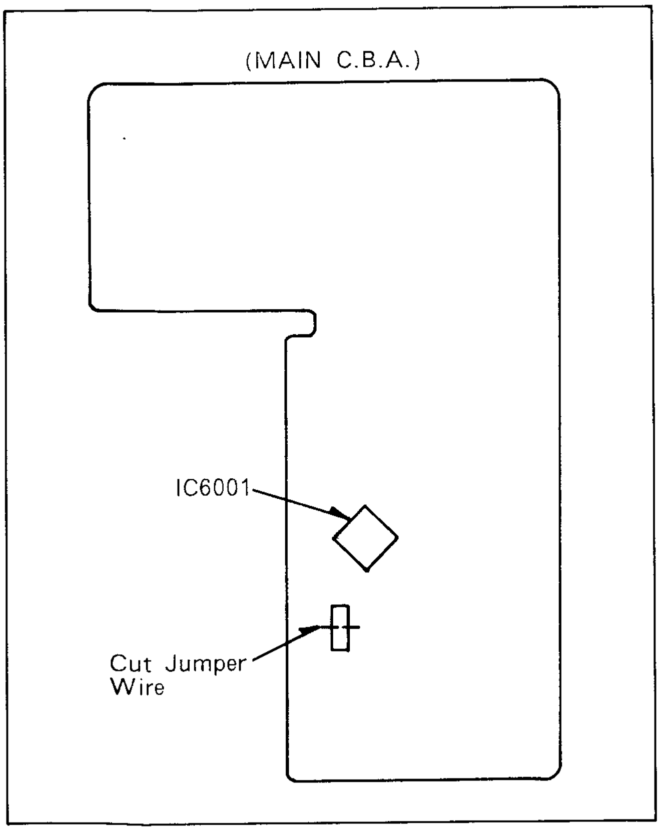

(MAIN C.B.A.)
IC6001
Cut Jumper Wire

Fig. M6

(1) Adjustment of P2 and P3 Posts

(Equipment Required)
Alignment Tape(PAL/SECAM: VFJ8125H3F,
NTSC: VFM8080HQFP)
Post Adjustment Screwdriver (VFK0329)

1. Set the tracking control into the fix position. (by pressing the tracking (+) and (−) button simultaneously on the Remote Controller)
   And connect the oscilloscope to the output of the Head Amp as shown in Fig.M7.

Note:
To get a stable waveform of the Head Amp output on the oscilloscope, use the head switching pulse as a triggering signal as shown in Fig.M7.

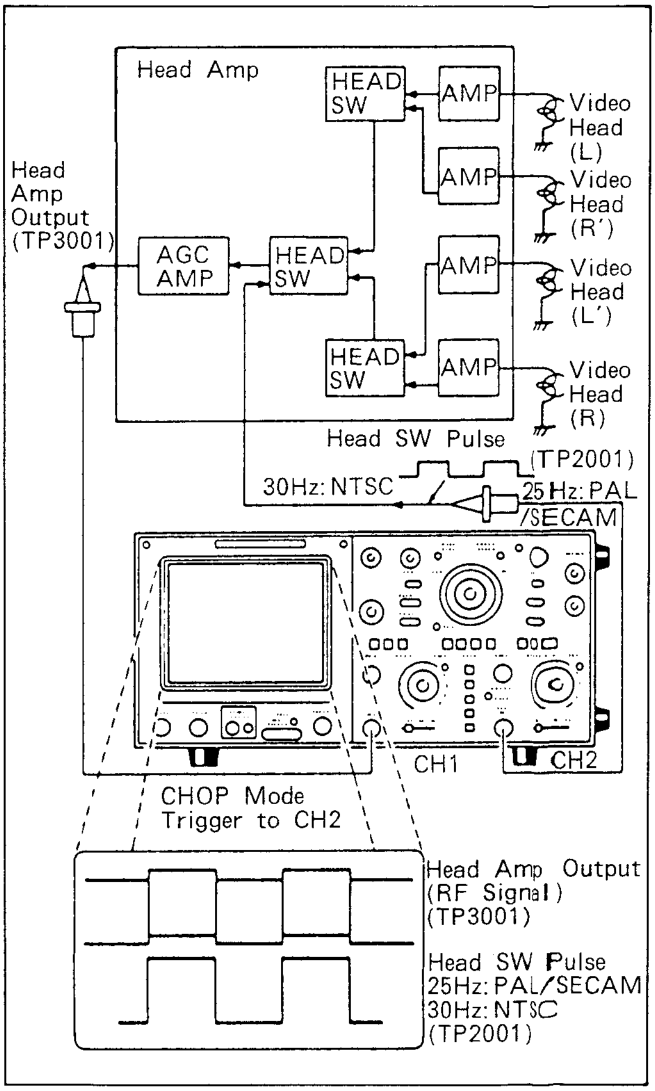

Head Amp
HEAD SW
AMP
Video Head (L)
AMP
Video Head (R')
Head Amp Output (TP3001)
AGC AMP
HEAD SW
AMP
Video Head (L')
HEAD SW
AMP
Video Head (R)
Head SW Pulse
(TP2001)
30Hz: NTSC
25Hz: PAL /SECAM
CH1
CH2
CHOP Mode
Trigger to CH2
Head Amp Output (RF Signal) (TP3001)
Head SW Pulse 25Hz: PAL/SECAM 30Hz: NTSC (TP2001)

Fig. M7 Connect of Oscilloscope

2. Playback the alignment tape.
3. If the RF envelope appears like example "A" or "B" in Fig.M8 then adjustment of the tape guide post (P2: Entrance) is necessary.
4. Adjust the tape guide post (P2) with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown in Fig.M8–"C".

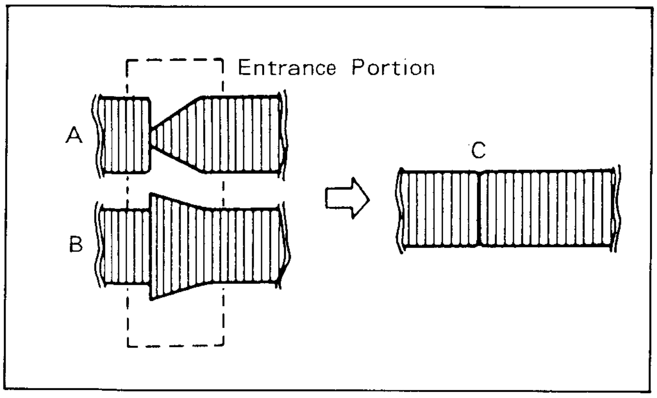

Entrance Portion
A
B
C

Fig. M8

5. If the RF envelope appears like example "D" or "E" in Fig.M9, then adjustment of the tape guide post (P3: Exit) is necessary.
6. Adjust the tape guide post (P3) in the same manner as the P2 post so that the exit portion becomes flat as shown in Fig.M9–"F".

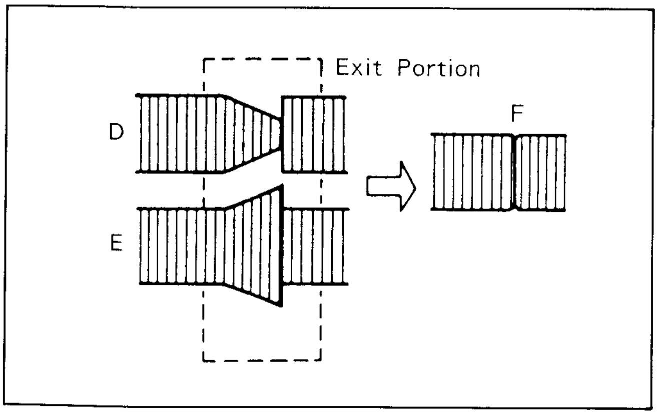

Exit Portion
D
E
F

Fig. M9

7. Turn the Tracking VR fully clockwise and counter clockwise. (Keep pressing + button or – button on the Remote Controller) The output envelope should vary nearly parallel with other condition as shown in Fig.M10.
8. Set the tracking control into centre fix position and adjust for maximum RF envelope, whilst being as flat as possible.

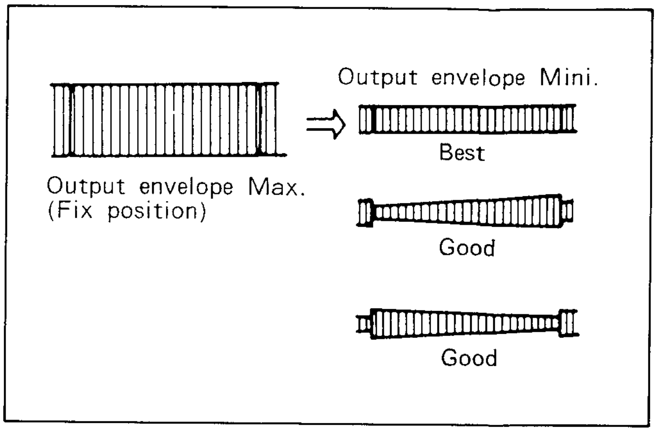

Output envelope Mini.
Best
Output envelope Max.
(Fix position)
Good
Good

Fig. M10

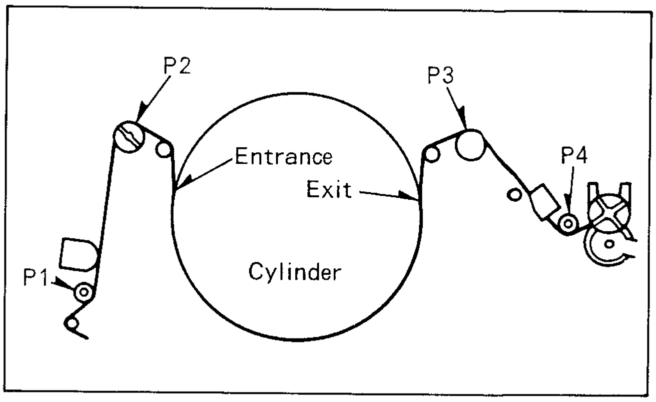

P2
P3
P4
Entrance
Exit
Cylinder
P1

Fig. M11 Loading of Posts

(2) Height Adjustment of A/C Head (1)

1) Install the A/C HEAD on the A/C HEAD BASE(E) by 3 screws (A),(B) and (C) with springs.
2) Tighten the screw (A) unit it touches chassis and then rotate the SCREW (A) counterclockwise for approx. 1.5 times.
3) Rotate the 2 screws(B) and (C) until A/C HEAD BASE(D) and (E) is separate.

CAUTION:
When adjusting the Screws (B) and (C) on the A/C HEAD BASE(E), do not touch the Screw Driver to the face of the A/C HEAD.

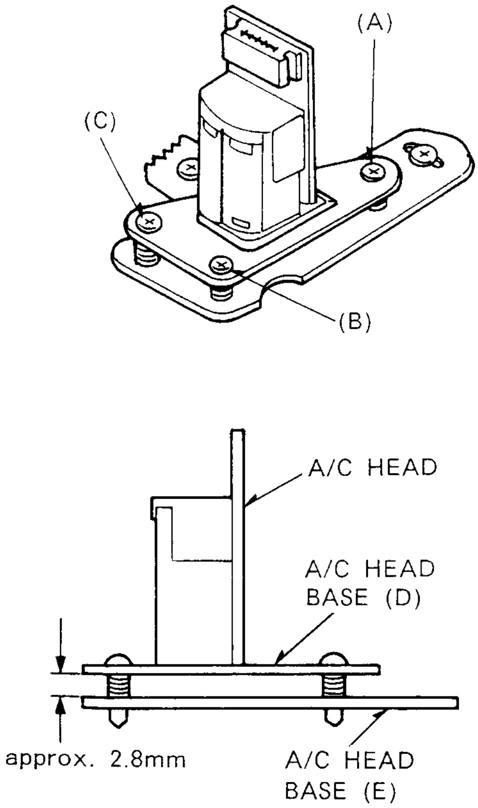
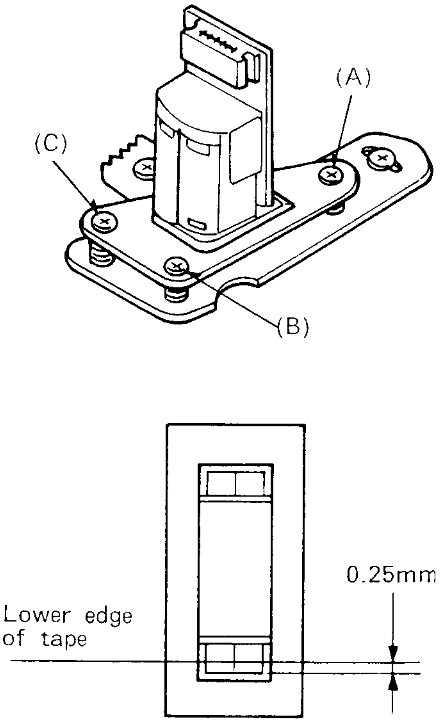


Fig. M12

(3) Height Adjustment of A/C Head (2)

1) Playback the alignment tape.
2) Rotate the screw (A) or (B) until the wrinkle appears on the lower edge of tape at P4 post.
3) Rotate the screw (A) or (B) until the wrinkle just disappears on the lower edge of tape at P4 post.
4) Connect the oscilloscope to audio output terminal.
5) Rotate the screw (C) until audio signal is maximized.



	SCREW (A)	SCREW (B)
So wrinkle appears on the lower edge of tape	COUNTER CLOCKWISE	CLOCKWISE
So wrinkle disappears on the lower edge of tape	CLOCKWISE	COUNTER CLOCKWISE

Fig. M13

(4) Fine-Adjustment of A/C HEAD

<When moving the A/C HEAD up>

1) Rotate the screw (A) counterclockwise until the wrinkle appears on the lower edge of tape at P4 post.
2) Rotate the screw (B) counterclockwise until the wrinkle just disappears on the lower edge of tape at P4 post.
3) Rotate the screw (C) counterclockwise until the audio signal is maximized.

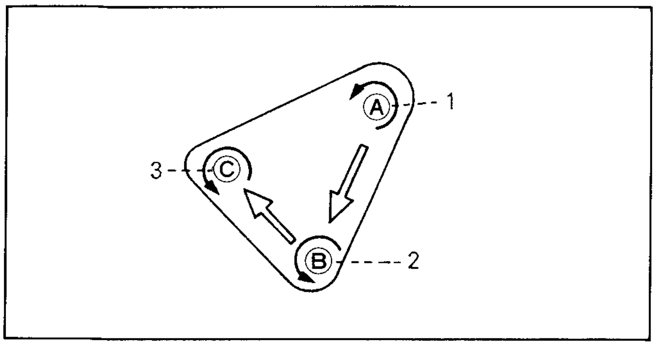


Fig. M14

<When moving the A/C HEAD down>

1) Rotate the screw (B) clockwise until the wrinkle appears on the lower edge of tape a P4 post.
2) Rotate the screw (A) clockwise until the wrinkle just disappears on the lower edge of tape at P4 post.
3) Rotate the screw (C) clockwise until the audio signal is miximized.

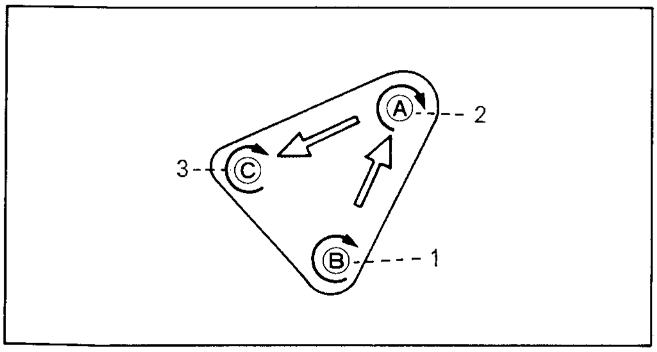


Fig. M15

(5) Horizontal Position Adjustment of A/C HEAD

1) Set the tracking control into the centre fix position. (by pressing the tracking (+) and (−) button simultaneously on the Remote Controller)
2) Connect the oscilloscope to the output of the Head Amp as shown in Fig.M7.
3) Playback the alignment tape.
4) Loosen the 2 screws (F) and (G).
5) Adjust the A/C HEAD BASE (E) until the RF envelope waveform is maximized.

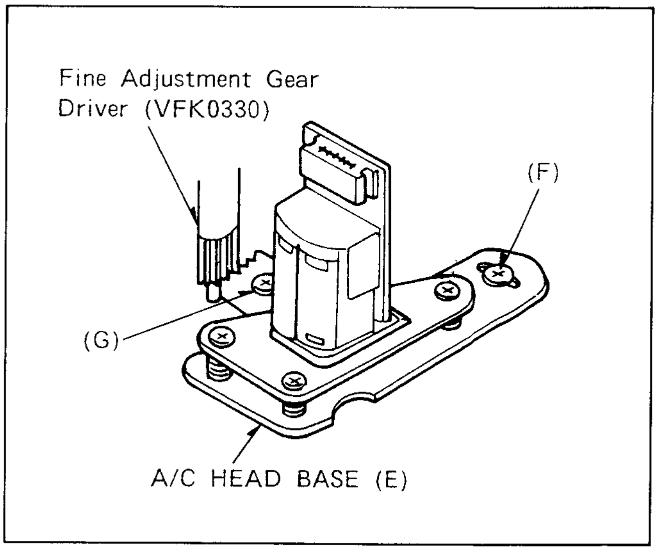


Fig. M16

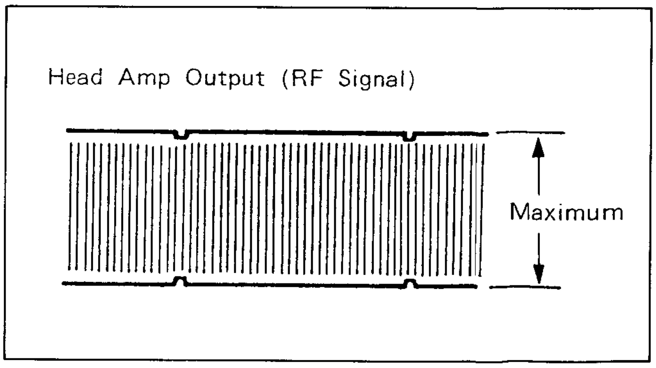
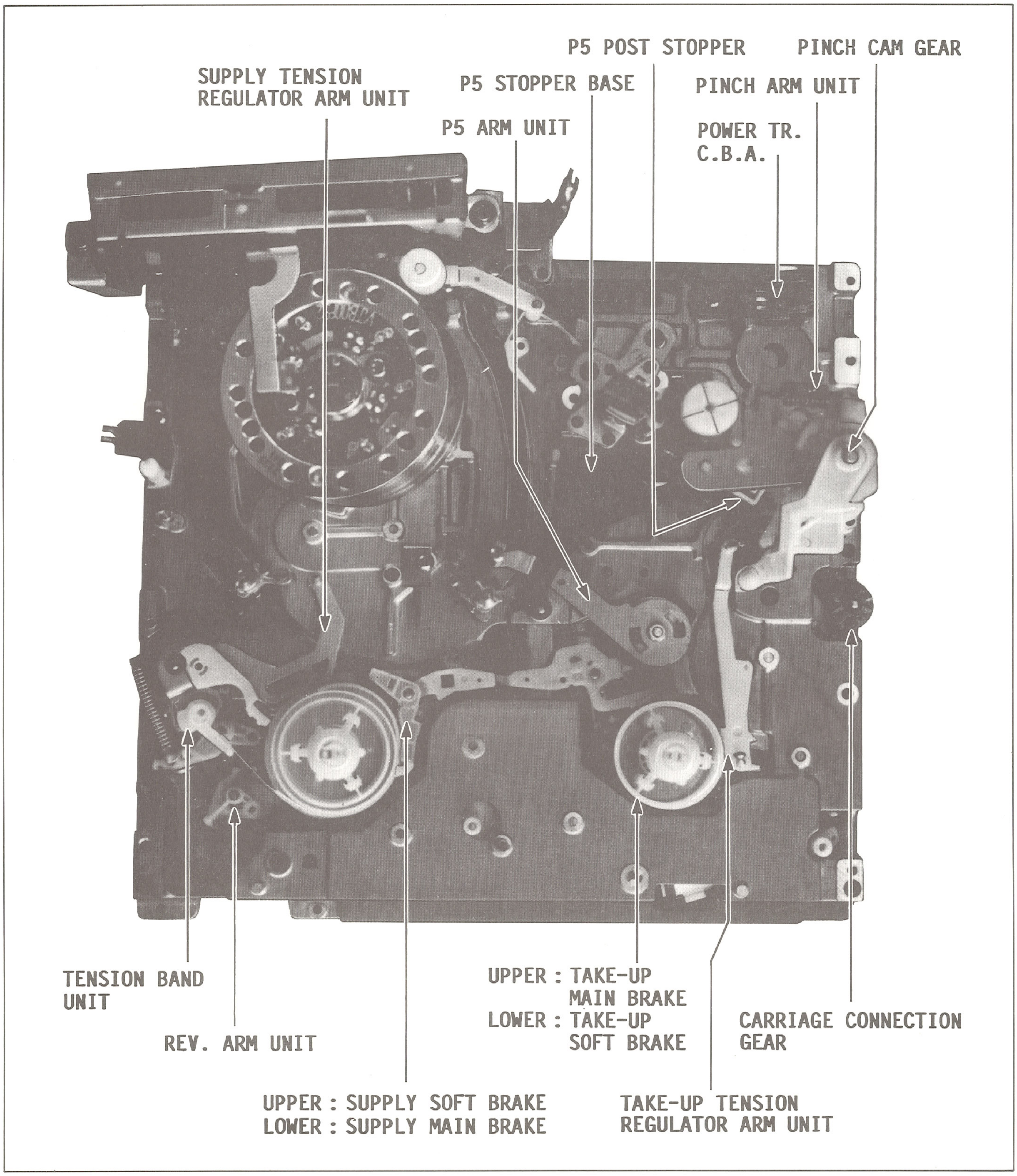


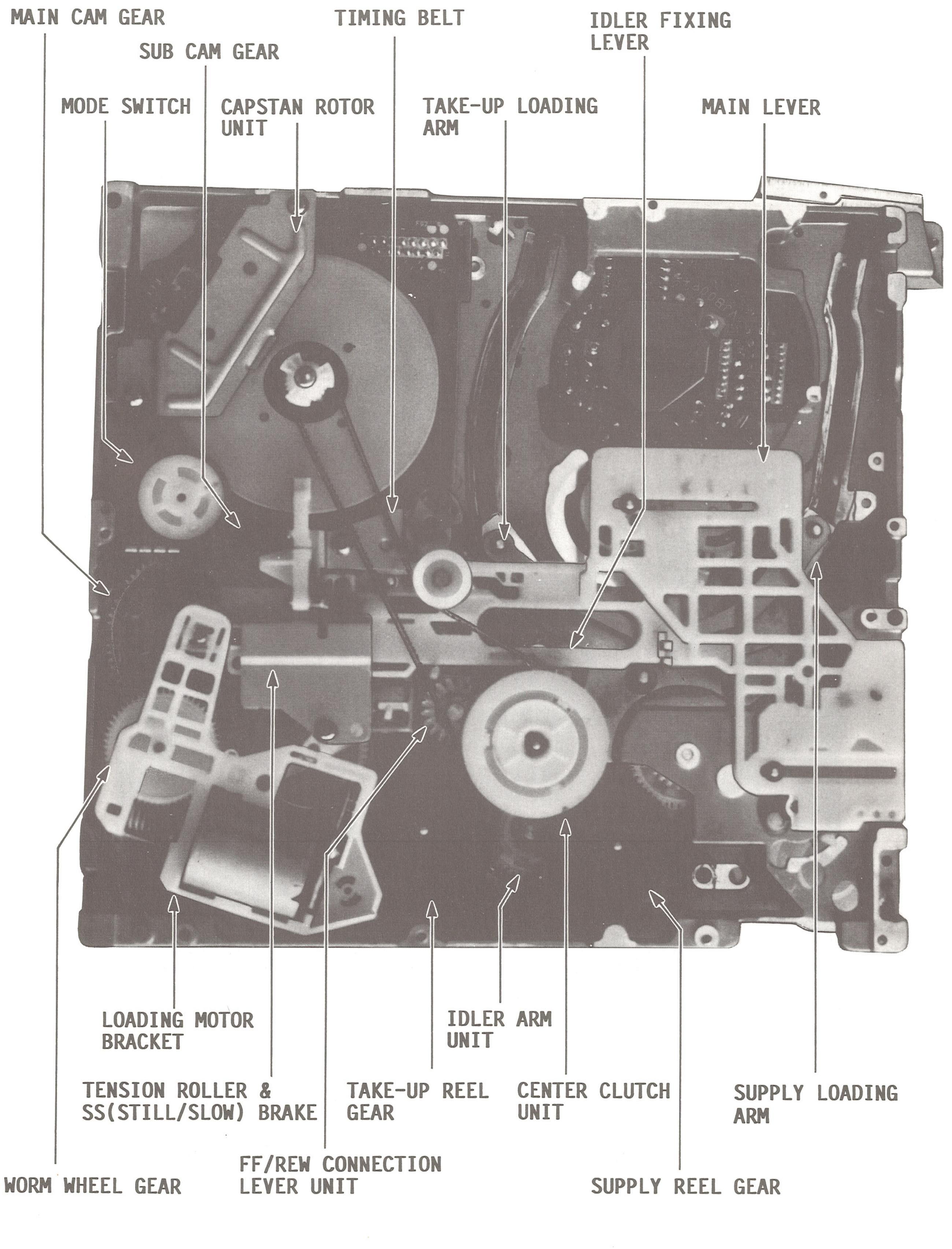
Fig. M17

2-3. DISASSEMBLY PROCEDURES OF MECHANISM

In order to remove the mechanism components it is first necessary to remove the mechanism chassis.


P5 POST STOPPER
PINCH CAM GEAR
SUPPLY TENSION REGULATOR ARM UNIT
P5 STOPPER BASE
PINCH ARM UNIT
P5 ARM UNIT
POWER TR. C.B.A.
TENSION BAND UNIT
REV. ARM UNIT
UPPER : TAKE-UP MAIN BRAKE
LOWER : TAKE-UP SOFT BRAKE
CARRIAGE CONNECTION GEAR
UPPER : SUPPLY SOFT BRAKE
LOWER : SUPPLY MAIN BRAKE
TAKE-UP TENSION REGULATOR ARM UNIT

Top View of K Mechanism


MAIN CAM GEAR
SUB CAM GEAR
TIMING BELT
IDLER FIXING LEVER
MODE SWITCH
CAPSTAN ROTOR UNIT
TAKE-UP LOADING ARM
MAIN LEVER
LOADING MOTOR BRACKET
IDLER ARM UNIT
TENSION ROLLER & SS(STILL/SLOW) BRAKE
TAKE-UP REEL GEAR
CENTER CLUTCH UNIT
SUPPLY LOADING ARM
WORM WHEEL GEAR
FF/REW CONNECTION LEVER UNIT
SUPPLY REEL GEAR

Bottom View of K Mechanism

2-3-1. REMOVAL OF THE MECHANISM CHASSIS

1) Remove the 2 screws(A) push the HOLDER PLATE slightly to the rear of mechanism.
2) Remove the screw(B).
3) Disconnect all cables and connectors on the mechanism chassis and connector P6003 on the MAIN C.B.A.(connecting to DEW SENSOR). (Use extreme care when disconnecting the P1508)
4) Lift the mechanism chassis out of the unit.

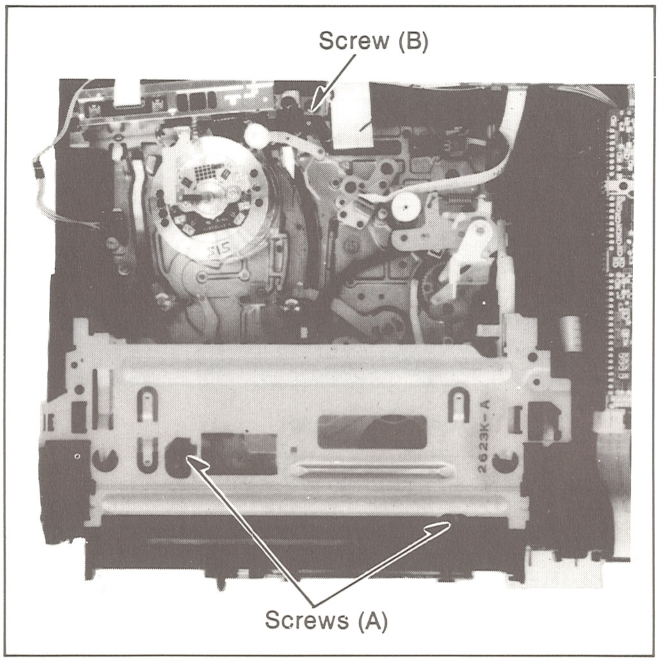

Screw (B)
2623K-A
Screws (A)

Fig. A1

2-3-2. REMOVAL OF THE MECHANISM CONNECTION C.B.A.

1) Remove the 4 screws(C).
2) Lift up on the C.B.A.

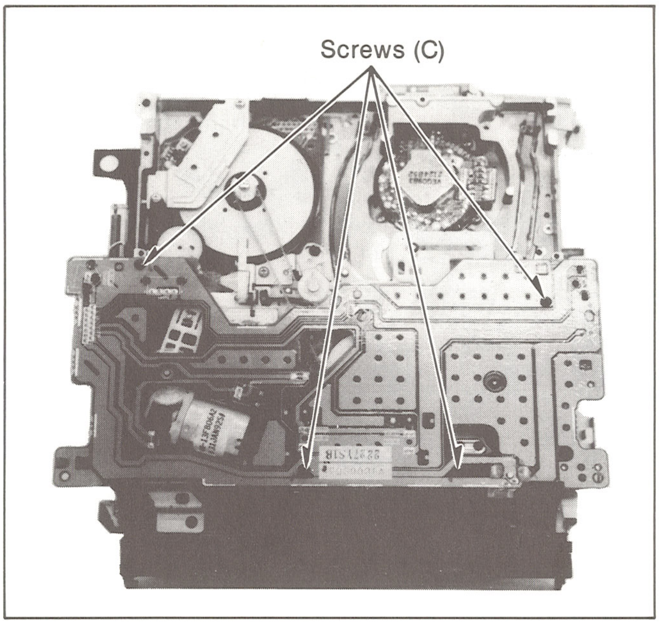


Fig. A2

2-3-3. REMOVAL OF THE TENSION ROLLER AND SS BRAKE

1) Remove the 2 screws(D).
2) Remove the TENSION ROLLER and the SS BRAKE.

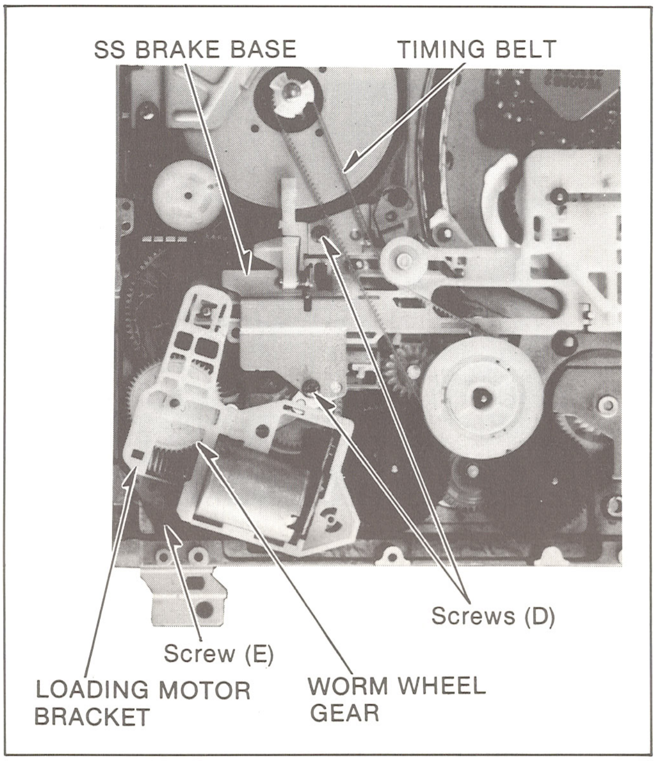

SS BRAKE BASE
TIMING BELT
Screws (D)
Screw (E)
LOADING MOTOR BRACKET
WORM WHEEL GEAR

Fig. A3

2-3-4. REMOVAL OF THE TIMING BELT

1) Remove the TIMING BELT.

2-3-5. REMOVAL OF THE LOADING MOTOR BRACKET

1) Remove the screw(E) as shown in Fig.A3.
2) Disconnect the locking tab on the right by pushing the locking tab in as shown in Fig.A4.
3) Lift up on the LOADING MOTOR BRACKET and push the BRACKET towards the MAIN CAM GEAR as shown in Fig.A3.
4) Lift the WORM WHEEL GEAR off the shaft.

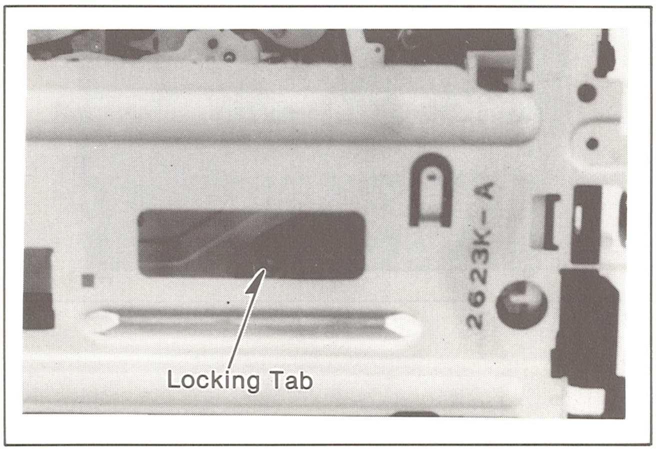

2623K-A
Locking Tab

Fig. A4

2–3–6. REMOVAL OF THE MAIN LEVER UNIT

1) Remove the 2 cut washers.
2) Remove the MAIN LEVER UNIT.

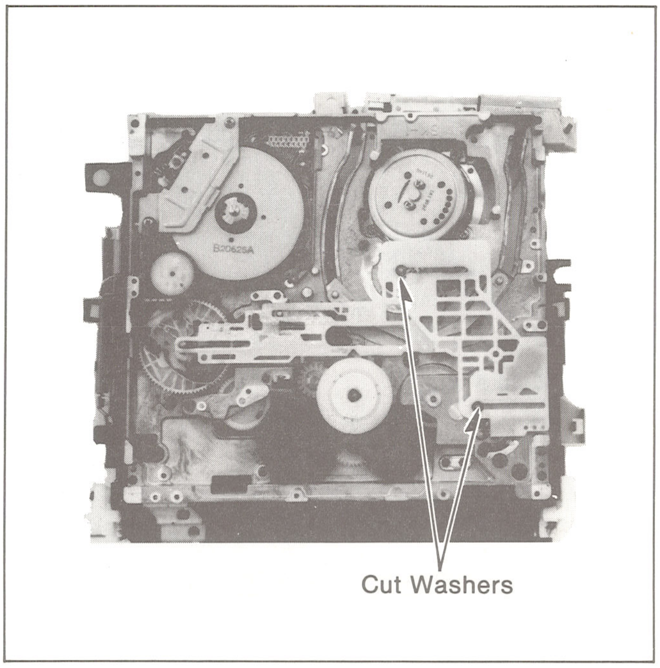

Cut Washers

Fig. A5

2–3–7. REMOVAL OF THE TAKE–UP AND SUPPLY LOADING ARMS

1) Remove the TAKE–UP and SUPPLY LOADING GEARs by lifting them up off the post.

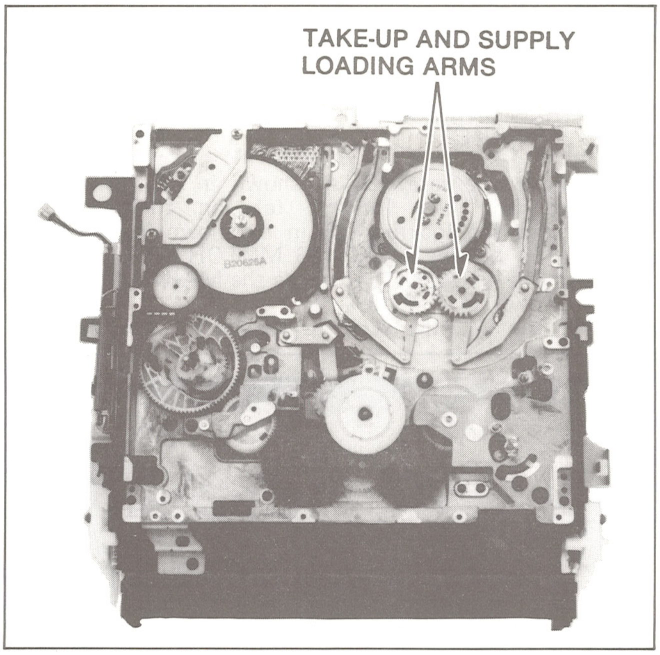

TAKE-UP AND SUPPLY
LOADING ARMS

Fig. A6

2–3–8. REMOVAL OF THE MODE SWITCH

1) Remove screw(F).
2) Remove the MODE SWITCH.

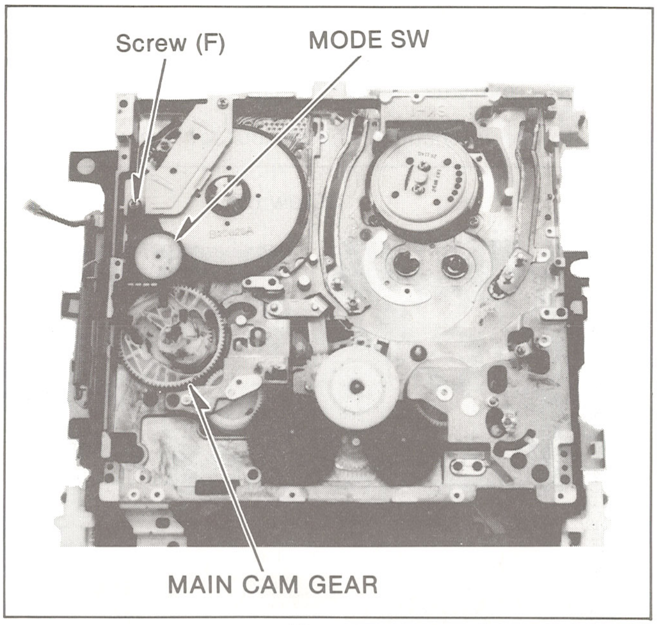

Screw (F)
MODE SW
MAIN CAM GEAR

Fig. A7

2–3–9. REMOVAL OF THE MAIN CAM GEAR

1) Lift the MAIN CAM GEAR off the shaft.

2–3–10. REMOVAL OF THE CAPSTAN ROTOR UNIT

1) Remove the screw(G) and remove the CAPSTAN STOPPER as shown in Fig.A8.

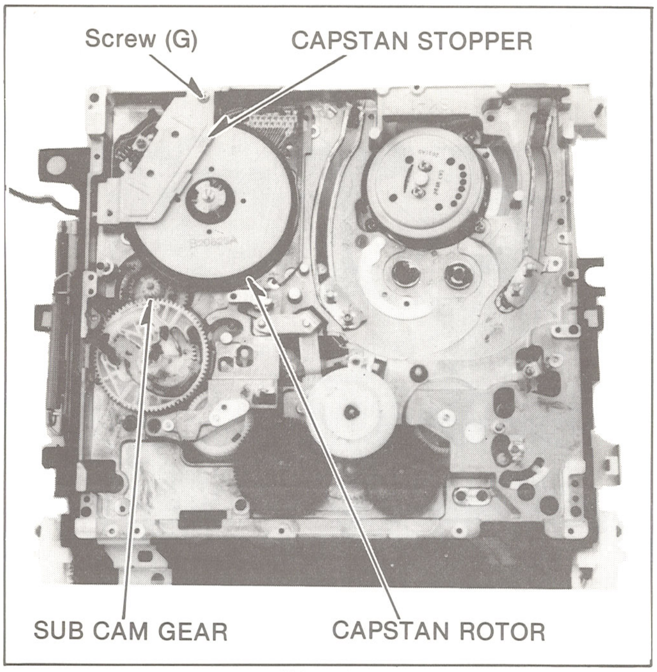

Screw (G)
CAPSTAN STOPPER
SUB CAM GEAR
CAPSTAN ROTOR

Fig. A8

2) Pull out the CAPSTAN ROTOR. (When the CAPSTAN ROTOR is removed, 2 OIL SEALs are left in the CAPSTAN ROTOR HOUSING Fig.A9.. To avoid losing the OIL SEALs, place them back on the CAPSTAN SHAFT.)

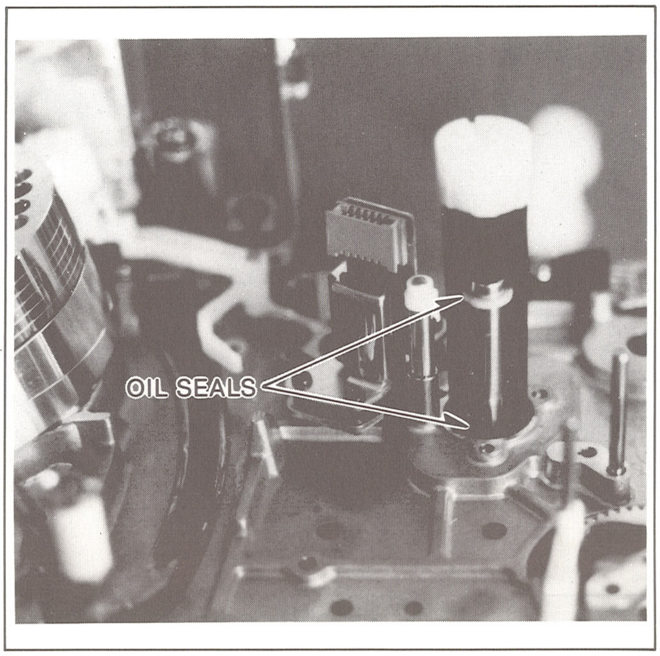


Fig. A9

3) Remove the 3 screws(H) and remove the CAPSTAN STATOR as shown in Fig.A10.

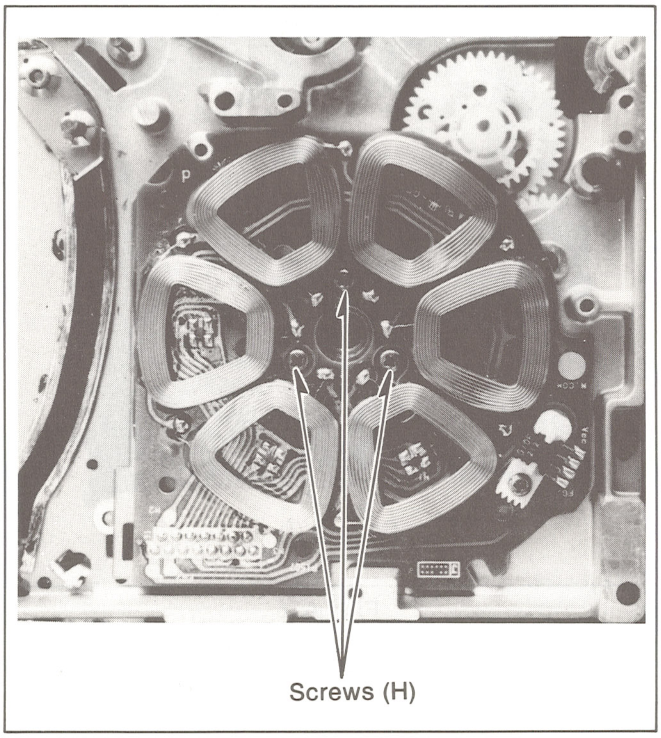


Fig. A10

2–3–11. REMOVAL OF THE SUB CAM GEAR

1) Lift the SUB CAM GEAR off the shaft.

2–3–12. REMOVAL OF THE CENTRE CLUTCH

1) Remove the cut washer.
2) Remove the CENTRE CLUTCH.

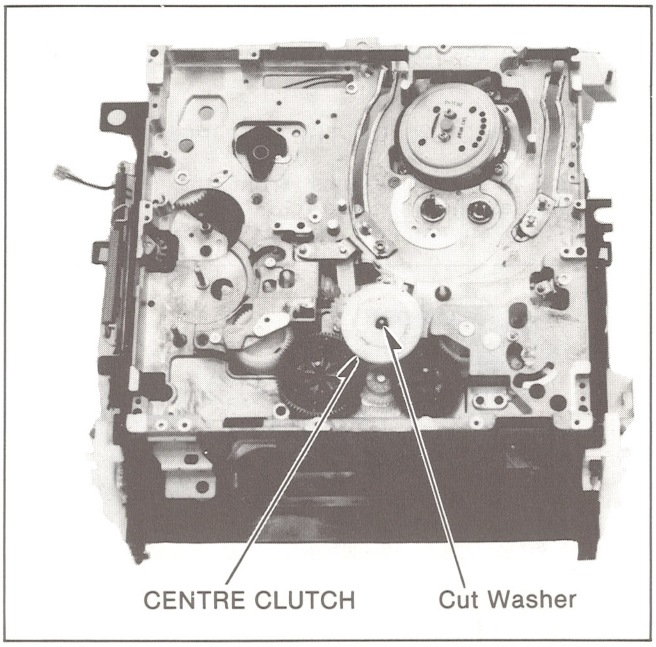

CENTRE CLUTCH
Cut Washer

Fig. A11

2–3–13. REMOVAL OF THE TAKE–UP AND SUPPLY REEL GEARS

1) Unlock the locking tab and lift up on the reel.

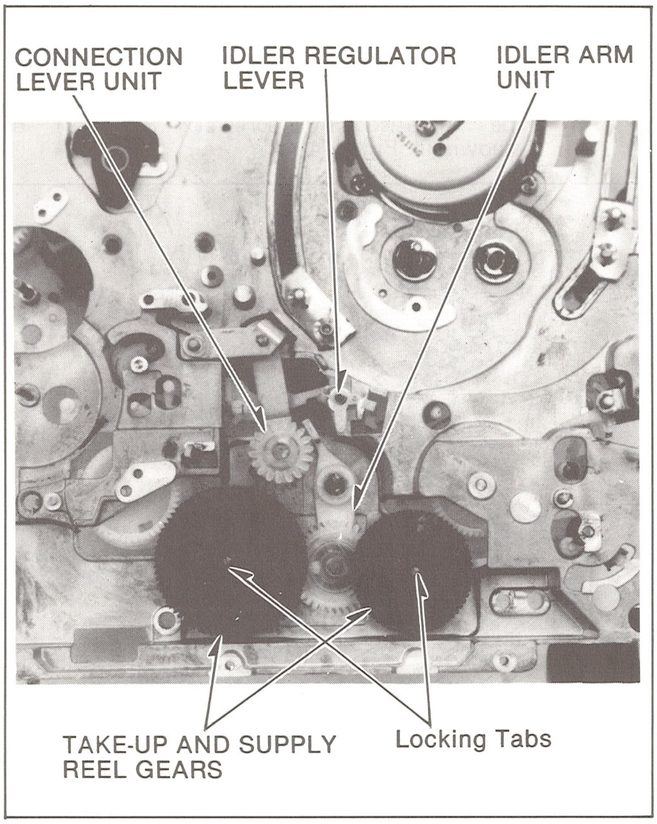

CONNECTION LEVER UNIT
IDLER REGULATOR LEVER
IDLER ARM UNIT
TAKE-UP AND SUPPLY REEL GEARS
Locking Tabs

Fig. A12

2-3-14. REMOVAL OF THE IDLER ARM UNIT, CONNECTION LEVER UNIT AND IDLER REGULATOR LEVER

1) Lift the IDLER ARM UNIT and CONNECTION LEVER UNIT off the shaft.
2) Remove the IDLER REGULATOR LEVER.

2-3-15. REMOVAL OF THE TOP PLATE

1) Push the locking tabs from the outer side to inside as shown in Fig.A13.
2) Lift up on the TOP PLATE.

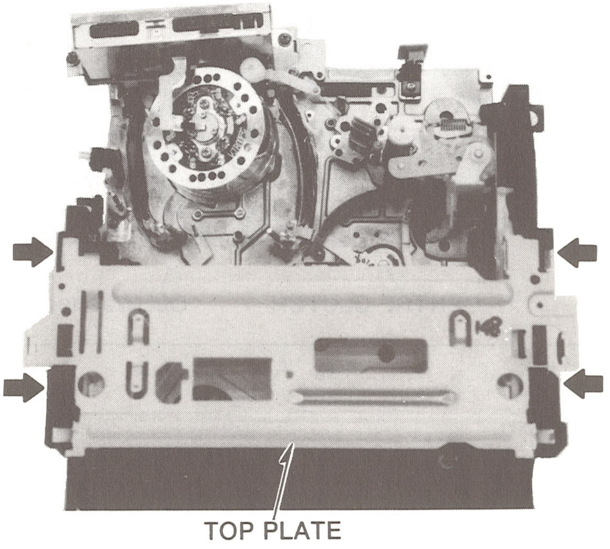


Fig. A13

NOTE:
If locking tab is broken, TOP PLATE can be installed by screws(XTB26+8G) as shown in Fig.A14.

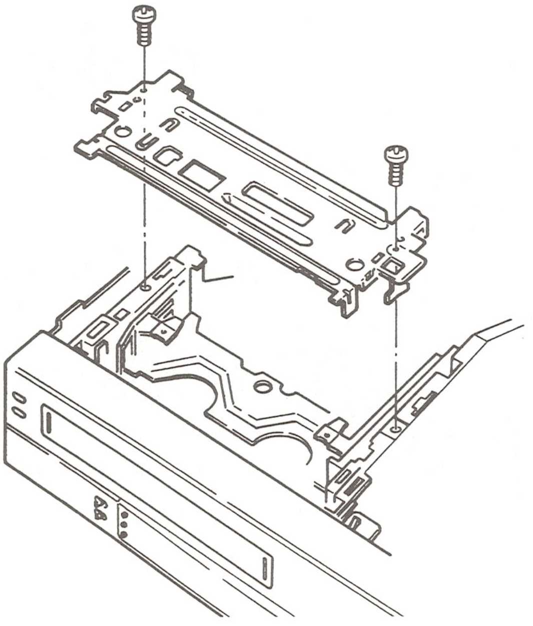


Fig. A14

2-3-16. REMOVAL OF THE CASSETTE HOLDER

1) Slide the HOLDER PLATE in the rear and lift up.
2) Remove the 4 screws(I).
3) Remove the CASSETTE HOLDER.

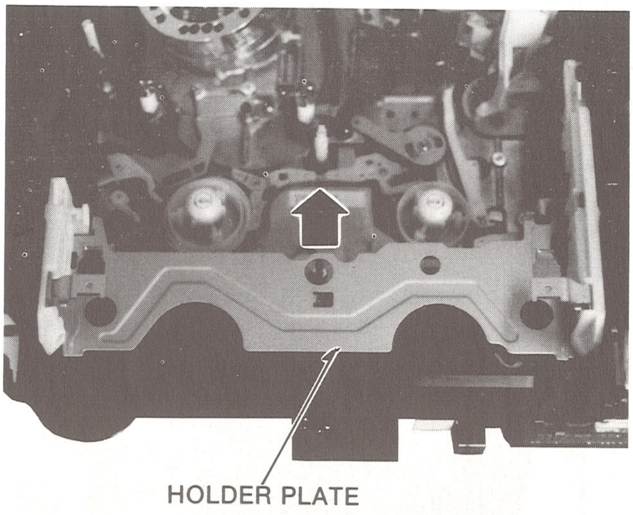


Fig. A15

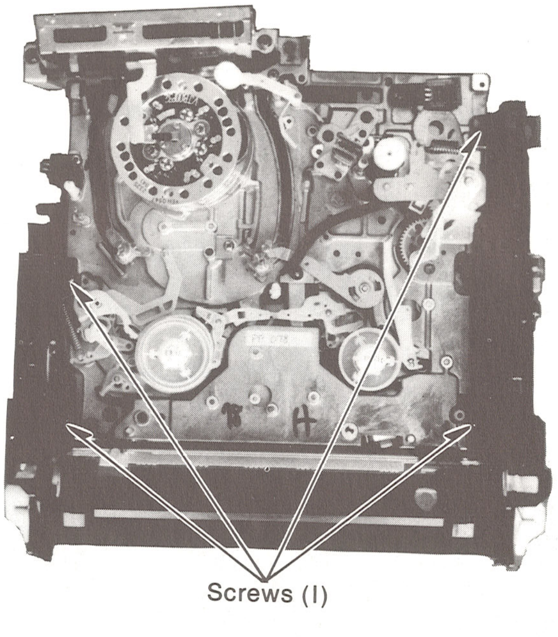


Fig. A16

2–3–17. REMOVAL OF THE PINCH ARM UNIT

1) Unlock the locking tab on the OPENER PIECE and remove it from the shaft.
2) Remove the PINCH ARM UNIT from the shaft.

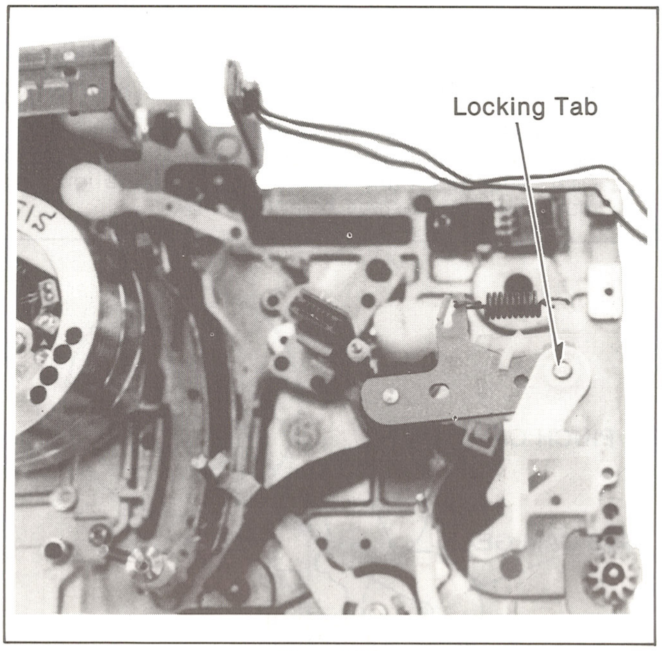

Locking Tab

Fig. A17

2–3–18. REMOVAL OF THE PINCH CAM GEAR AND P5 ARM UNIT

1) Unlock the locking tab of the P5 STOPPER and remove the P5 STOPPER.
2) Remove the screw(J) and the cut washer.
3) Remove the P5 STOPPER BASE.
4) Remove the PINCH CAM GEAR and P5 ARM UNIT.

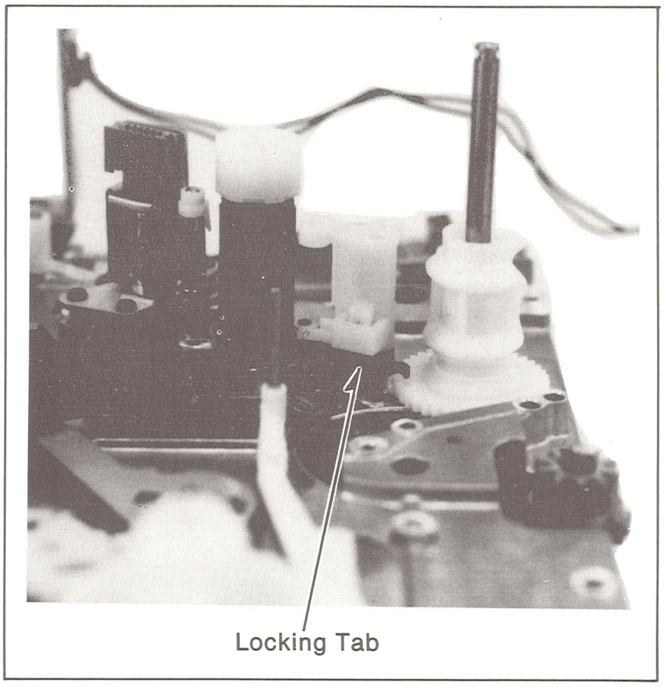

Locking Tab

Fig. A18

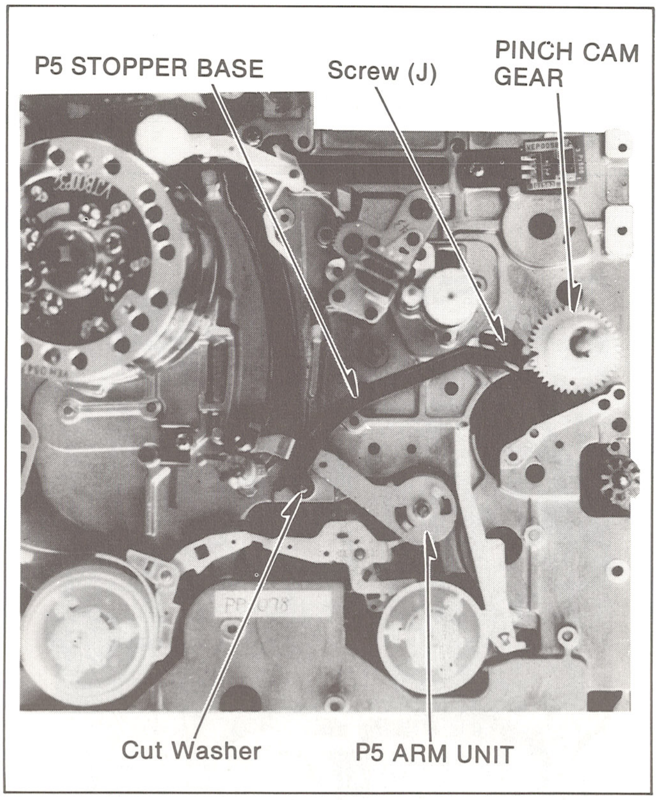

P5 STOPPER BASE
Screw (J)
PINCH CAM GEAR
Cut Washer
P5 ARM UNIT

Fig. A19

2–3–19. REMOVAL OF THE TAKE–UP TENSION REGULATOR ARM UNIT

1) Disconnect the spring from the bottom of the chassis.
2) Unlock the locking tab and lift the TAKE–UP TENSION REGULATOR ARM UNIT off the shaft.

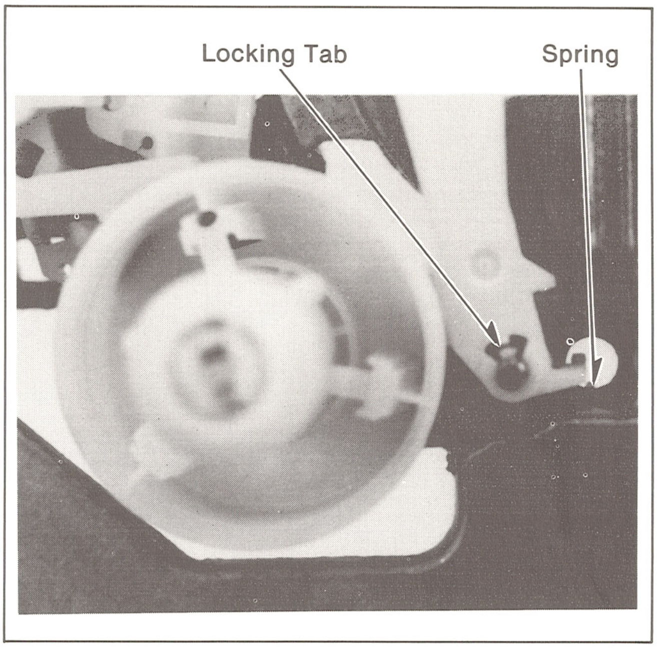

Locking Tab
Spring

Fig. A20

2-3-20. REMOVAL OF THE CARRIAGE CONNECTION GEAR

1) Remove the cut washer.
2) Lift the CARRIAGE CONNECTION GEAR off the shaft.

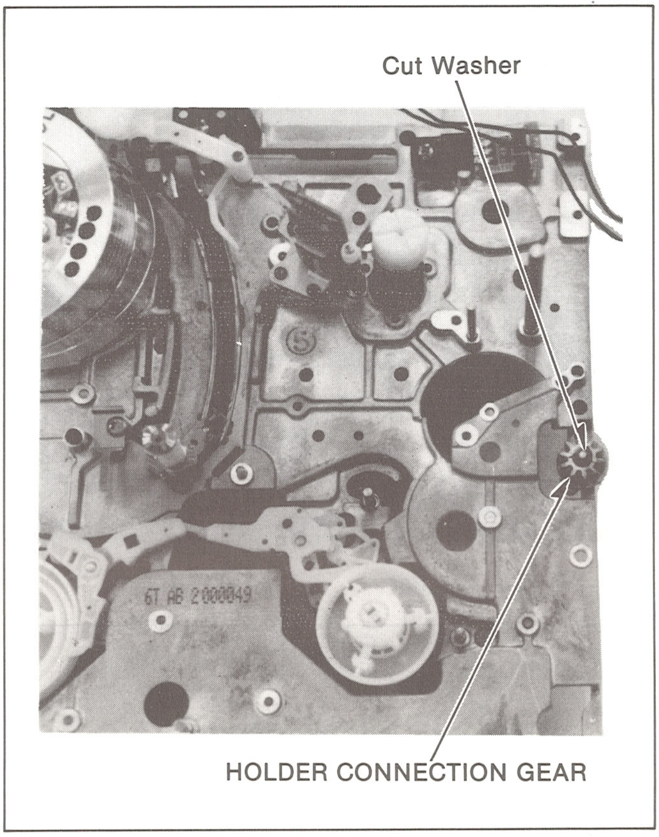

Cut Washer
HOLDER CONNECTION GEAR

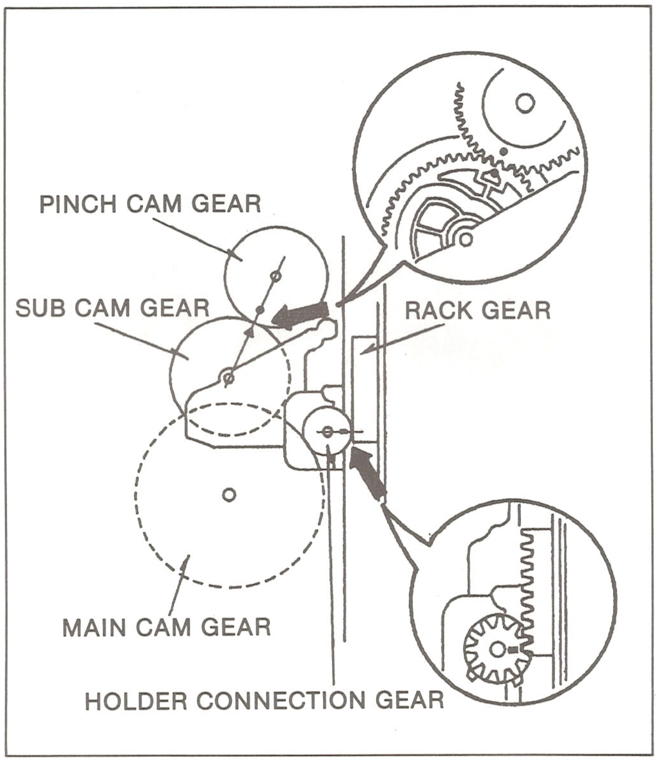
Fig. A21

2-4. ASSEMBLY PROCEDURES OF MECHANISM

2-4-1. VIEW OF PHASE ALIGNMENT

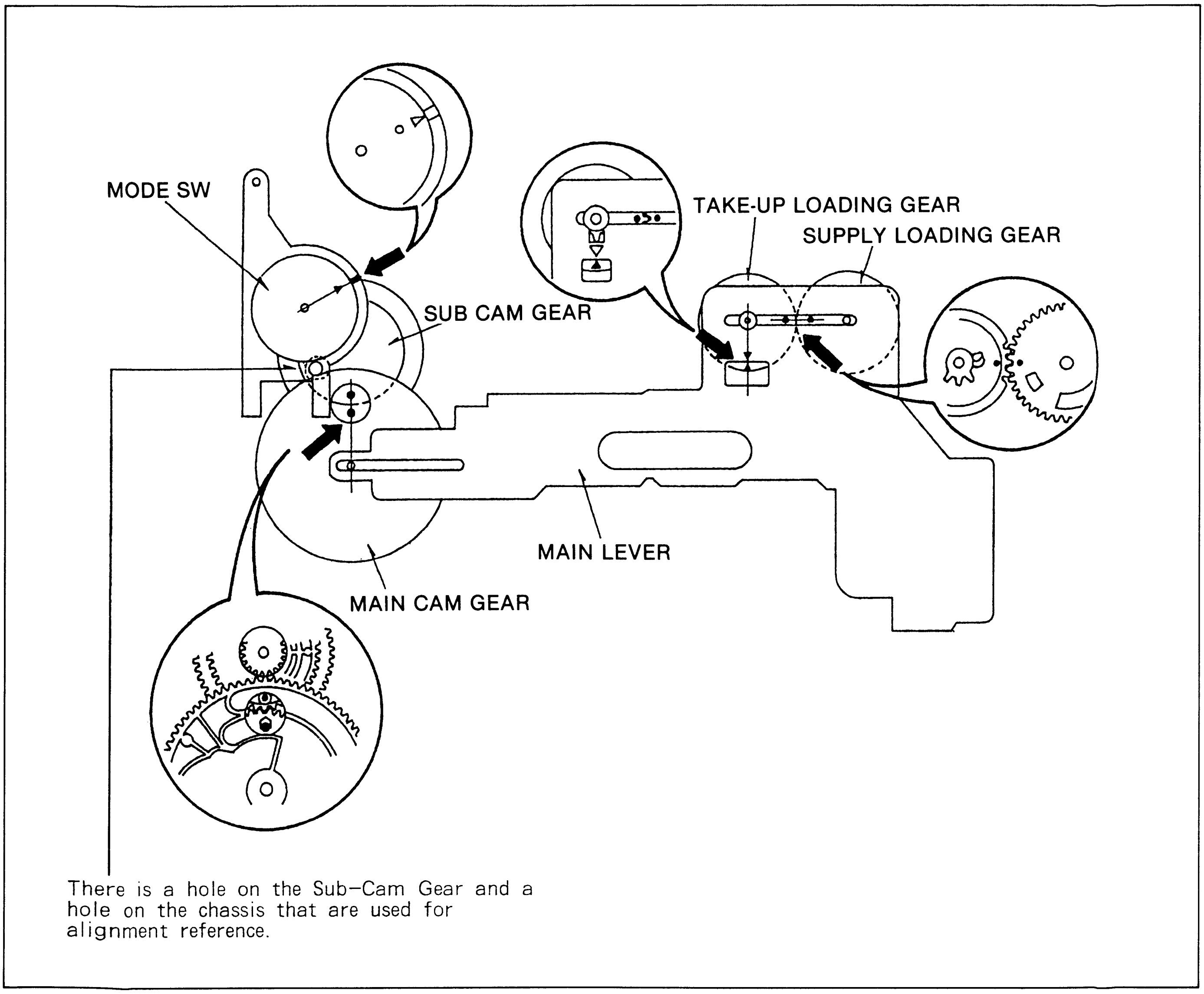
The gear phase alignment is performed in the cassette down position and is crucial for the K-Mechanism to operate correctly.

1) Top View of Gear Phase Alignment Marks.
There are alignment marks on the Pinch Cam Gear and Sub Cam Gear. There is one alignment mark on the carriage connection gear.


PINCH CAM GEAR
SUB CAM GEAR
RACK GEAR
MAIN CAM GEAR
HOLDER CONNECTION GEAR

Top View of Gear Phase Alignment

2) Bottom View of Gear Phase Alignment Marks.
There are alignment marks on Take-up Loading Gear and Supply Loading Gear.
There is an additional mark on the Take-up Loading Gear that aligns with the mark on the main lever. There are alignment marks on the Main Cam Gear and the Sub Cam Gear. The mode switch gear mark aligns with a notch in the mode switch frame.


MODE SW
TAKE-UP LOADING GEAR
SUPPLY LOADING GEAR
SUB CAM GEAR
MAIN LEVER
MAIN CAM GEAR

There is a hole on the Sub-Cam Gear and a hole on the chassis that are used for alignment reference.

Bottom View of Gear Phase Alignment

2–4–2. ASSEMBLY OF THE CARRIAGE CONNECTION GEAR

1) Install the CARRIAGE CONNECTION GEAR as shown in Fig.A21.
2) Install the cut washer.

2–4–3. ASSEMBLY OF THE TAKE–UP TENSION REGULATOR ARM UNIT, P5 ARM UNIT PINCH CAM GEAR, P5 STOPPER BASE, P5 STOPPER, PINCH CAM UNIT AND OPENER PIECE

1) Install the TAKE–UP TENSION REGULATOR ARM UNIT.
2) Hook the spring to hole on the chassis.
3) Install the P5 ARM UNIT and PINCH CAM GEAR.
4) Install the P5 STOPPER BASE with cut washer and screw(J).
5) Install the P5 STOPPER, PINCH ARM UNIT and OPENER PIECE.

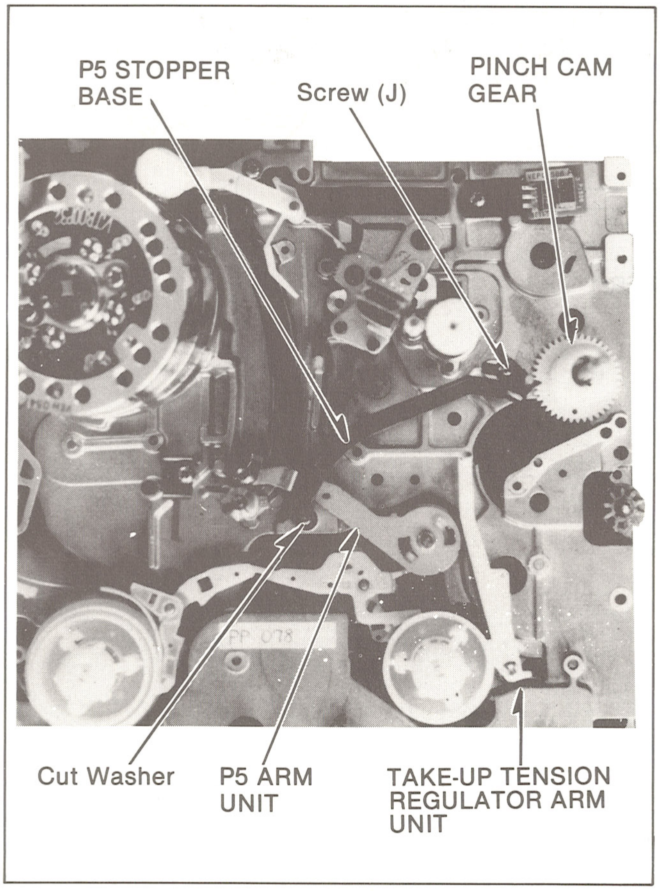

P5 STOPPER BASE
Screw (J)
PINCH CAM GEAR
Cut Washer
P5 ARM UNIT
TAKE-UP TENSION REGULATOR ARM UNIT

Fig. K1

2–4–4. ASSEMBLY OF THE IDLER ARM UNIT, TAKE–UP AND SUPPLY REEL GEARS, IDLER REGULATOR LEVER, CONNECTION LEVER UNIT AND CENTRE CLUTCH

1) Install the IDLER UNIT, TAKE–UP and SUPPLY REEL GEARs, IDLER REGULATOR LEVER and CONNECTION LEVER UNIT.
2) Install the CENTRE CLUTCH with cut washer.

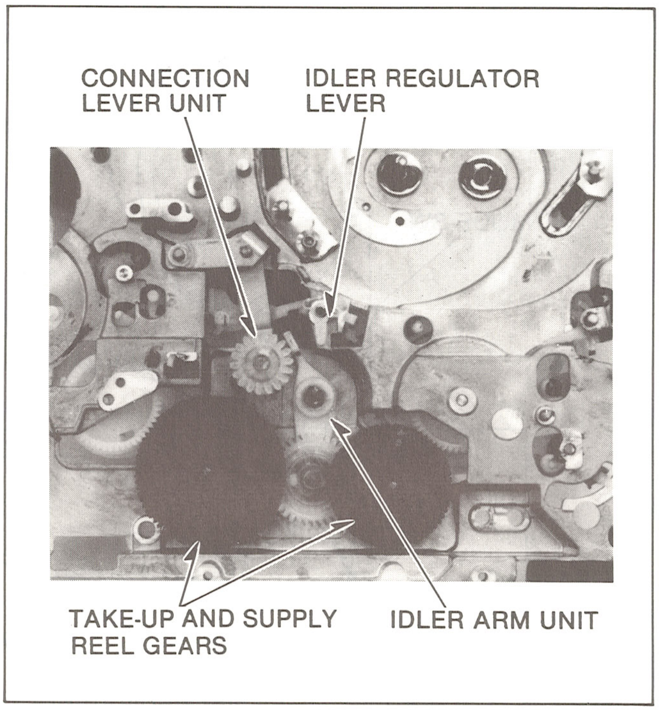

CONNECTION LEVER UNIT
IDLER REGULATOR LEVER
TAKE-UP AND SUPPLY REEL GEARS
IDLER ARM UNIT

Fig. K2

2–4–5. ASSEMBLY OF THE SUB CAM GEAR

The SUB CAM GEAR is used for the reference of the phase.

1) Install the SUB CAM GEAR so that the chassis hole aligns with hole in the SUB CAM GEAR. Also, the hole in the outer gear of the SUB CAM GEAR must align with the hole in the PINCH CAM GEAR. The boss on the PINCH ARM must be installed in the cam groove of the SUB–CAM GEAR. This is used for the reference of the phase. To aid installation of the SUB–CAM GEAR insert a fixing pin into the holes of the SUB–CAM GEAR and the chassis.

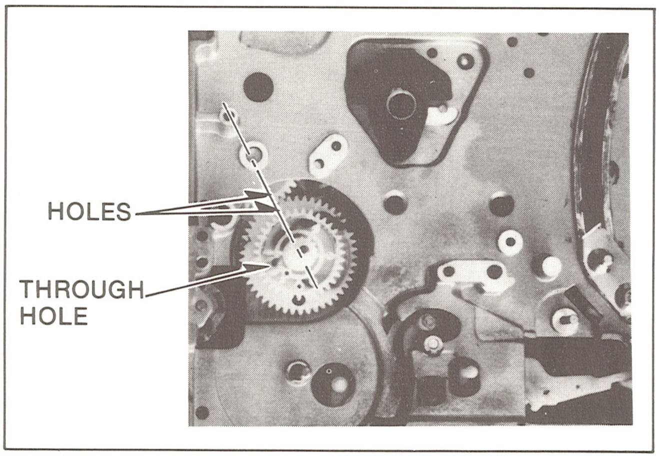

HOLES
THROUGH HOLE

Fig. K3

2-4-6. ASSEMBLY OF THE STATOR UNIT

1) Place the STATOR UNIT into position. Loosely reinstall the 3 screws that secure the STATOR and HOUSING UNIT. Next insert the CENTERING PIN then tighten the 3 screws as shown in Fig.K4.

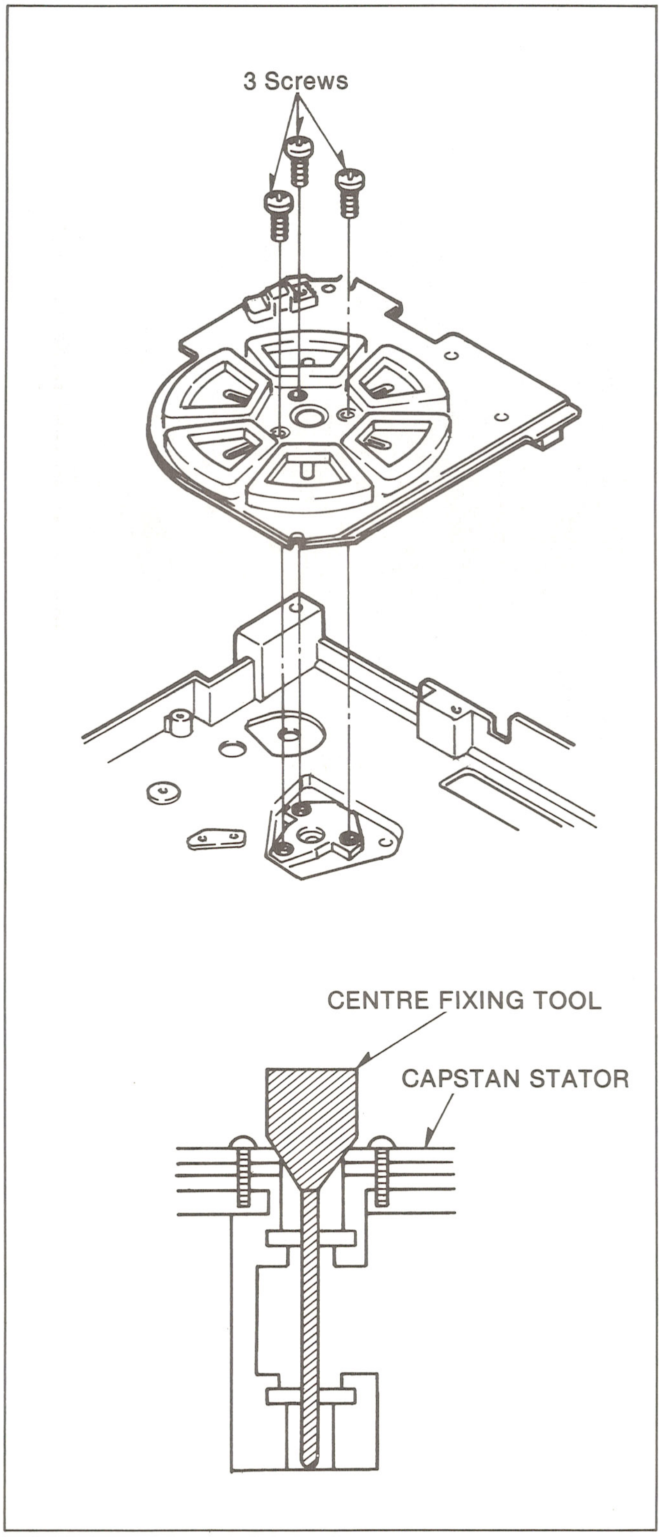


Fig. K4

2) Remove the oil seal from the ROTOR SHAFT. Partially install the ROTOR SHAFT into the lower position and install the oil seal. Insert the ROTOR SHAFT further into the housing and install the second OIL SEAL in the upper position. Push the lower OIL SEAL down the ROTOR SHAFT into the housing.

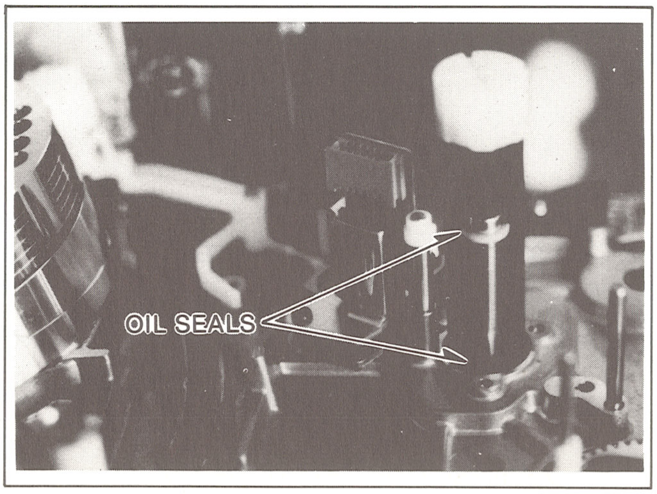


Fig. K5

3) Clean the ROTOR SHAFT after replacement. Reinstall the ROTOR STOPPER and the screw on the top side.

2-4-7. ASSEMBLY OF THE MAIN CAM GEAR

NOTE:
Before installing the MAIN CAM GEAR, set the CONNECTION GEAR so that the side of the gear with no teeth is towards the MAIN CAM GEAR.

1) Install the MAIN CAM GEAR so that the hole marker aligns with the SUB-CAM GEAR and insert the boss of the TAKE-UP TENSION REGULATOR ARM into the slot on the bottom of the MAIN CAM GEAR.

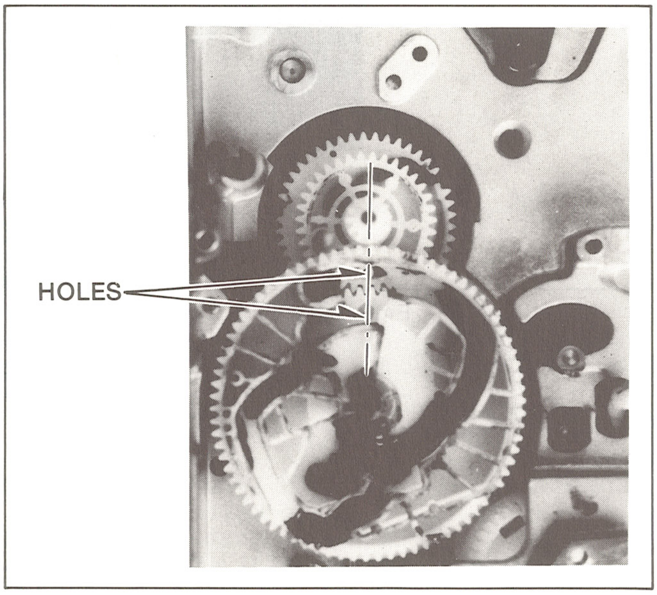


Fig. K6

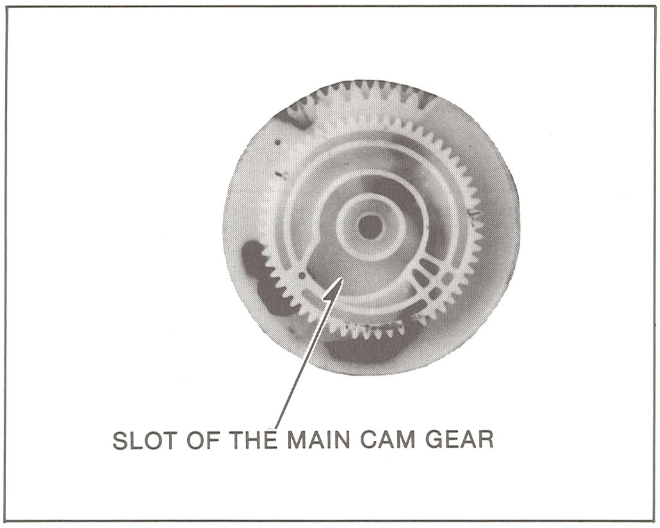


Fig. K7

2–4–8. ASSEMBLY OF THE MODE SW

1) Align the mark on the MODE SWITCH GEAR with the notch on the MODE SWITCH FRAME.
2) Install the MODE SWITCH taking care that all the phase alignments are correct. Check the CAM GEAR timing by rotating the MAIN CAM GEAR.
3) Install the screw(K) the retains the MODE SWITCH and ROTOR STOPPER.

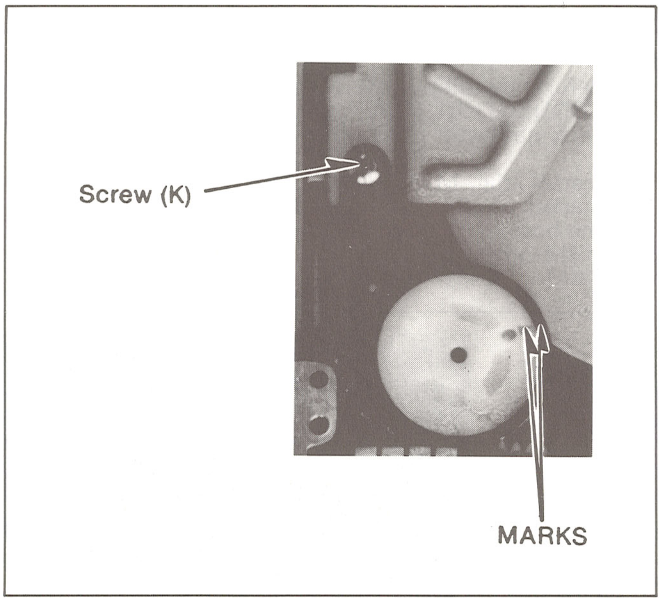


Fig. K8

2–4–9. ASSEMBLY OF THE T & S LOADING ARMS

1) Set the shaft holders to the unloaded position. Take care that the P5 POST does not interfere with the P3 Post or prevent it from going to the unloaded position. The TENSION ARM must be set to the position that will allow the P2 POST to move back to the unloaded position.

2) Install the TAKE–UP LOADING ARM and SUPPLY LOADING ARM, aligning the marks on the both GEARS.

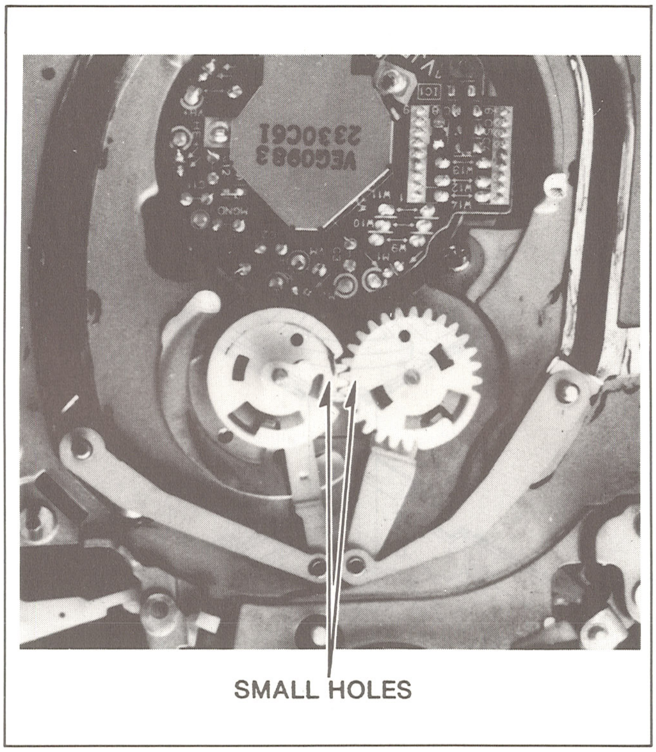


Fig. K9

2–4–10. ASSEMBLY OF THE MAIN LEVER

1) Install the MAIN LEVER ARM checking that the boss arms and shafts are in the correct position and the mark on the MAIN LEVER ARM is aligned with mark on the TAKE–UP LOADING GEAR.

2) Install the 2 cut washers.

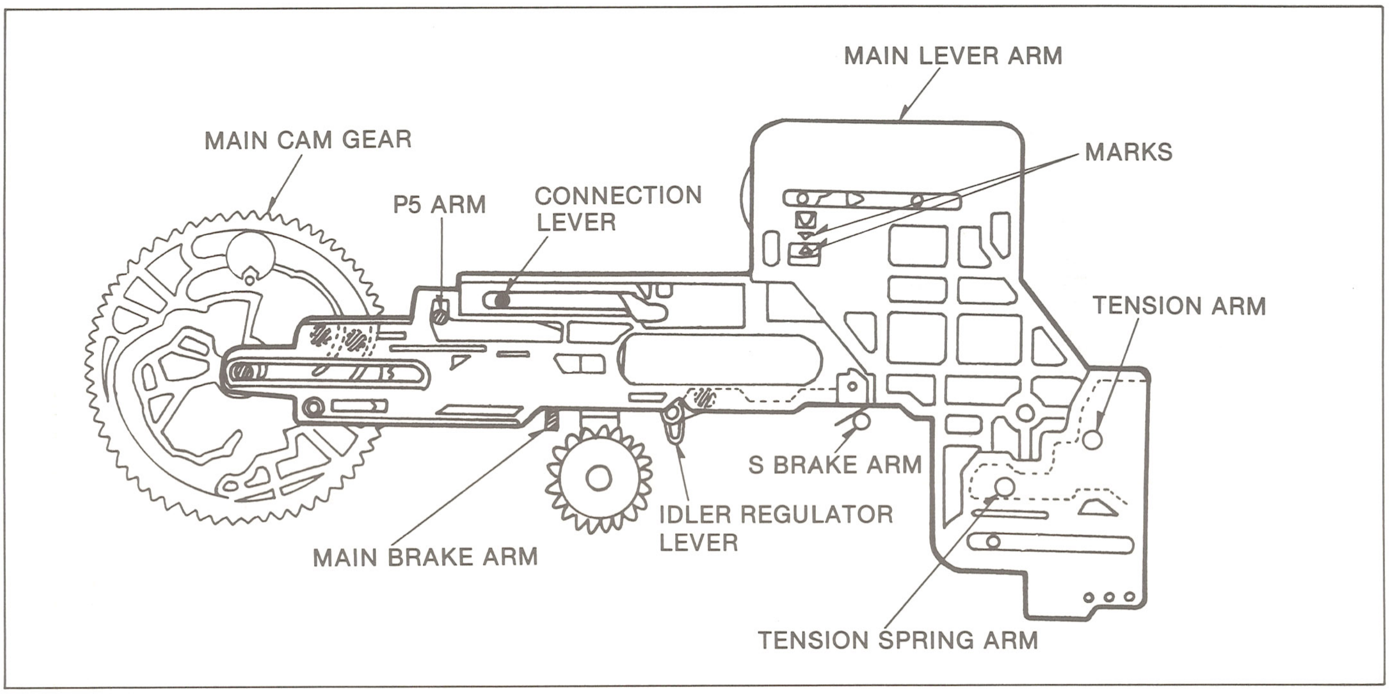

MAIN LEVER ARM
MAIN CAM GEAR
MARKS
P5 ARM
CONNECTION LEVER
TENSION ARM
S BRAKE ARM
IDLER REGULATOR LEVER
MAIN BRAKE ARM
TENSION SPRING ARM

Fig. K10

2–4–11. ASSEMBLY OF THE WORM WHEEL GEAR & LOADING MOTOR BRACKET

1) Reinstall the WORM WHEEL GEAR.

2) Install the LOADING MOTOR BRACKET. First set the BRACKET over the MAIN CAM GEAR shaft and slide until it locks. Then push down on the BRACKET until the locking tab is connected to the chassis. Reinstall the screw(L).

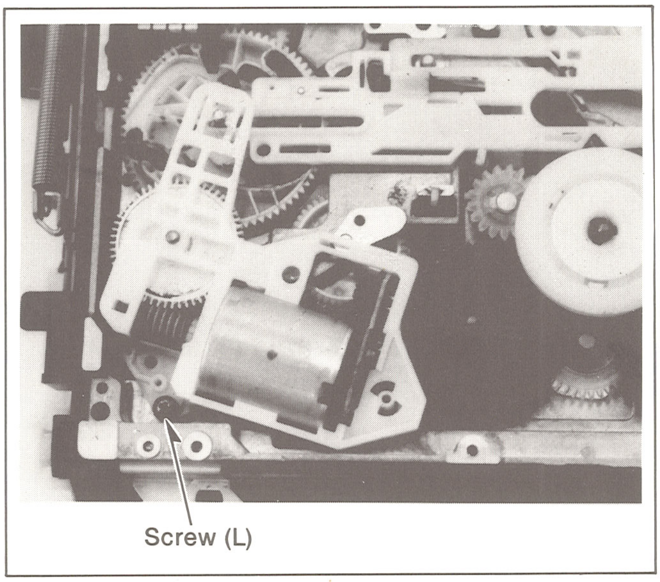


Fig. K11

2–4–12. ASSEMBLY OF THE TIMING BELT & SS BRAKE BASE

1) Install the TIMING BELT.

2) Put the TIMING BELT onto the TENSION ROLLER, slide the SS BRAKE BASE into position and install 2 screws(M).

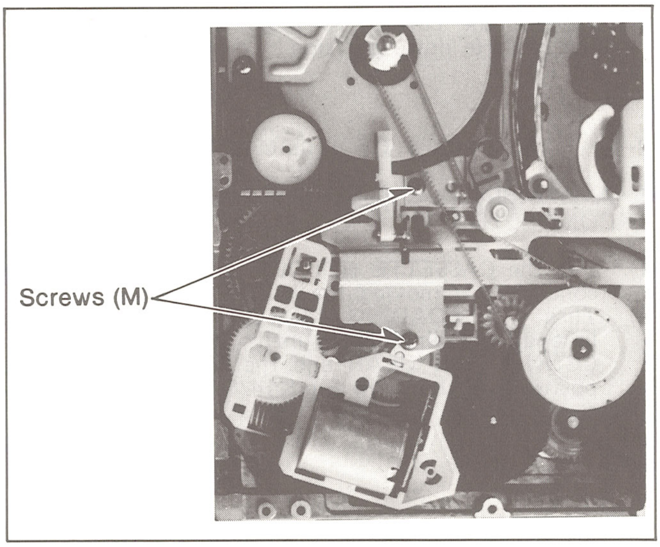


Fig. K12

2–4–13. ASSEMBLY OF THE PINCH ARM UNIT

1) Install the OPENER PIECE by inserting the boss into the PINCH ARM UNIT. Push down until the lock engages the shaft.

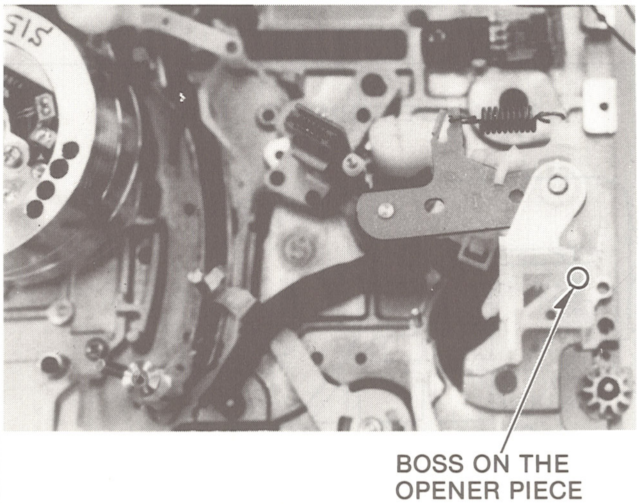


Fig. K13

2–4–14. CHECKING THE MECHANISM MOVEMENT

1) Check by moving the mechanism by hand then re–check using a battery to power the motor.

2) Rotate the LOADING MOTOR by hand in the loading direction while checking the movement of each gear. If the mechanism operates correctly when moved by hand, connect a battery to the LOADING MOTOR and re–check the movement of each gear as shown in Fig.S1/S2/S3.

3) Connect the battery to check the loading operation and then reverse the battery connection to check the unloading operation.

4) Reverse the battery to move the mechanism to the cassette down position.

2–4–15. ASSEMBLY OF THE CASSETTE HOLDER

1. A SSEMBLE A CASSETTE HOLDER AS A UNIT COMPLETE UNIT

1) Put the CASSETTE HOLDER into the cassette up condition by moving the WIPER ARM.
2) Turn the LOADING MOTOR by hand in the unloading direction until the CARRIAGE CONNECTION GEAR and the MODE SW is eject position as shown in Fig.K14/K15

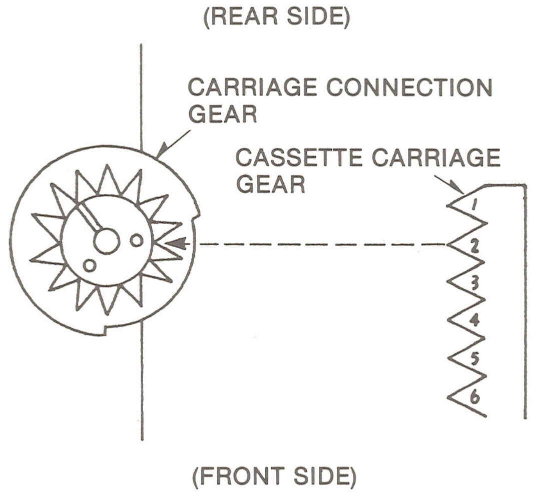


Fig. K14

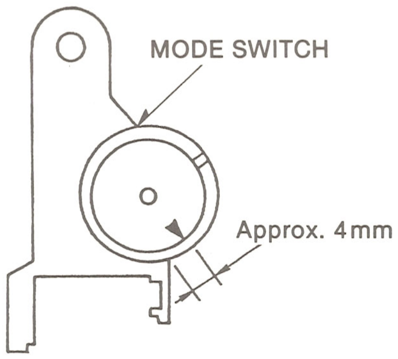


Fig. K15

3) Install the CASSETTE HOLDER UNIT as shown in Fig.K14.
4) Install 4 screws to attach the CASSETTE HOLDER UNIT.

<Eject Operation>

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

<NOTE>
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear will not rotate.
For performing the Eject operation with the cassette carriage not installed, it is necessary to rotate to the carriage connection gear by hand in the direction of the arrow.

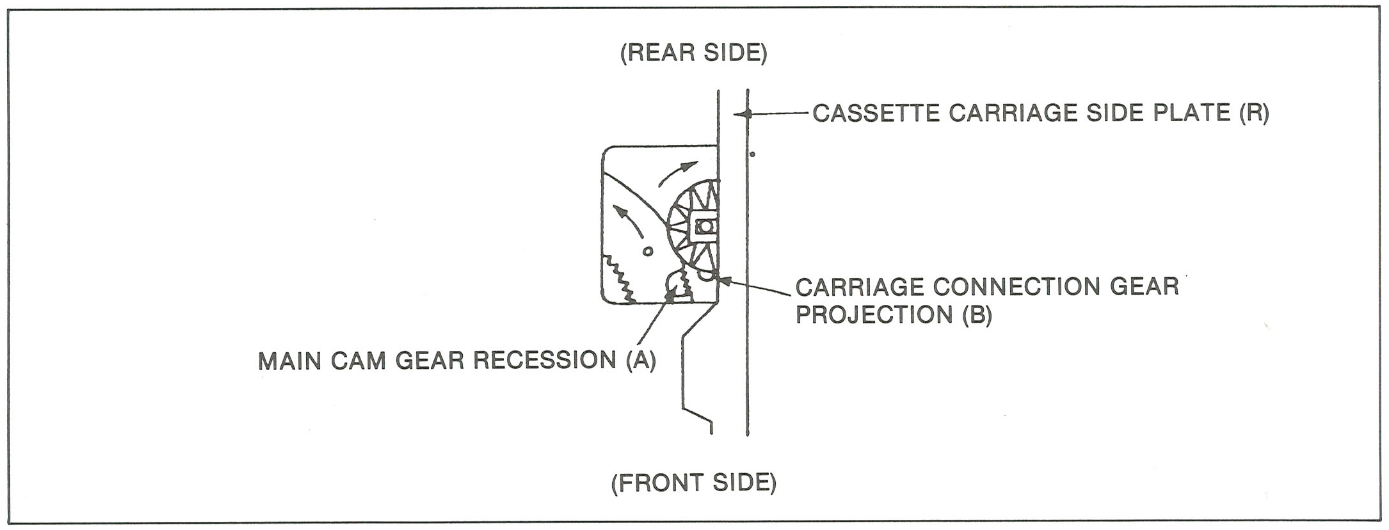

(REAR SIDE)
CASSETTE CARRIAGE SIDE PLATE (R)
CARRIAGE CONNECTION GEAR
PROJECTION (B)
MAIN CAM GEAR RECESSION (A)
(FRONT SIDE)

Fig. K16 Top View of Eject Operation

2. ASSEMBLE A CASSETTE HOLDER SEPARATELY

1) Put the CASSETTE HOLDER into the cassette down position by moving the WIPER ARM. Check the position of the WIPER ARM and RACK A. The mark of RACK A aligns with the mark on the WIPER ARM.

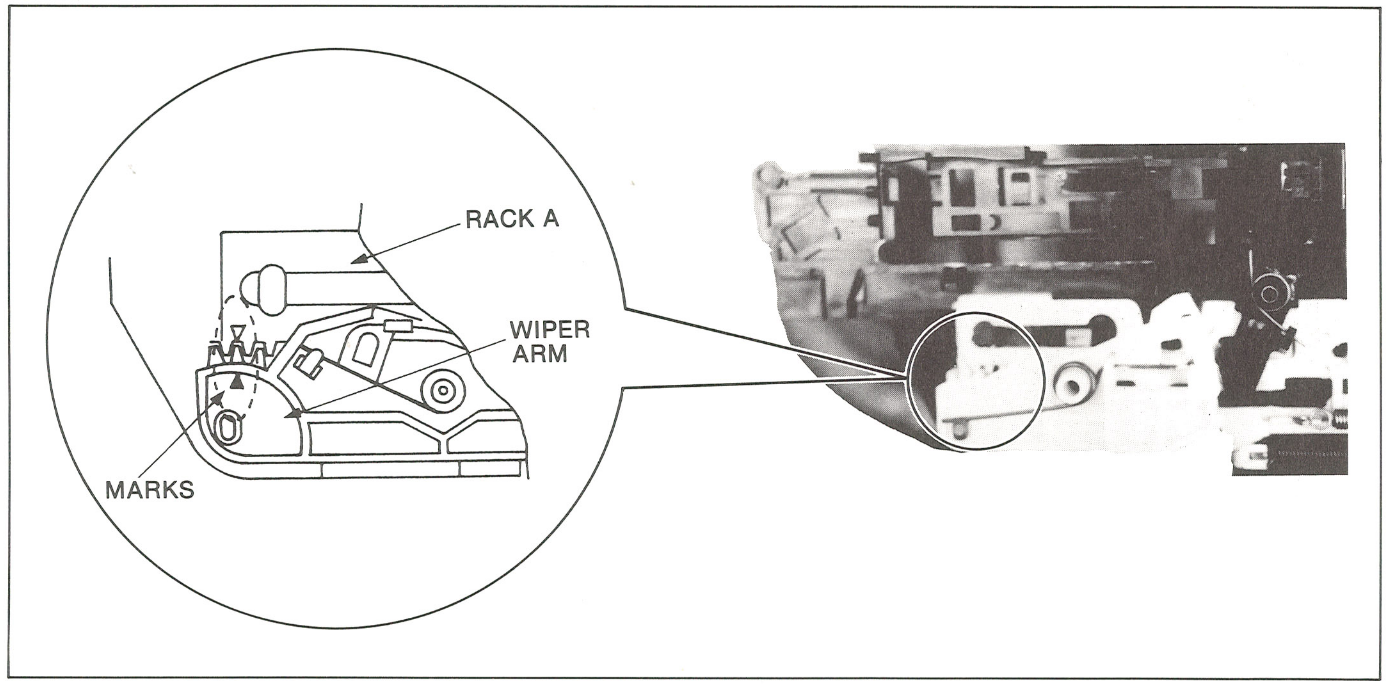

RACK A
WIPER ARM
MARKS

Fig. K17

2) Install the SIDE PLATE ASSEMBLY so that the first gear of RACK B aligns with the mark on the CARRIAGE CONNECTION GEAR.

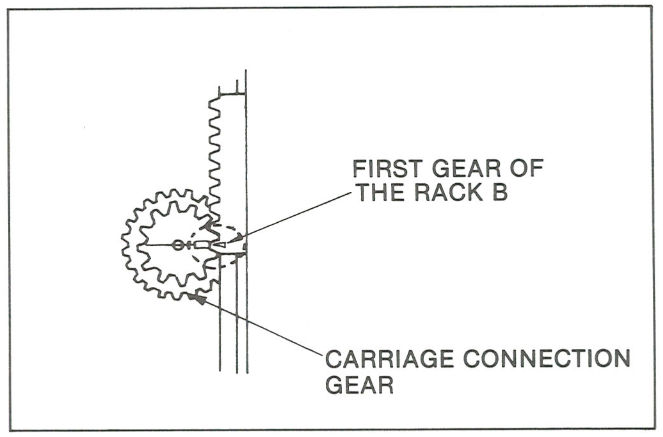

FIRST GEAR OF THE RACK B
CARRIAGE CONNECTION GEAR

Fig. K18

3) Install 4 screws to attach the SIDE PLATE ASSEMBLY.

4) Turn the LOADING MOTOR by hand to the cassette up position while pushing the WIPER ARM to the cassette up position.

5) Insert the 5 posts on the CASSETTE HOLDER into the Side Plate.

6) Set the TOP PLATE on the Side Plate then push it down until it locks.

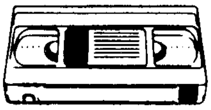
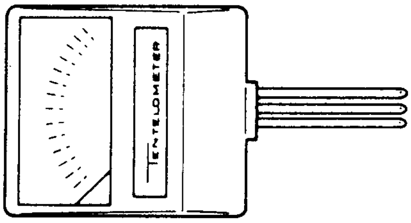
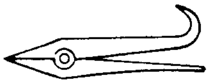
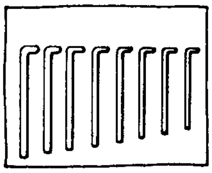
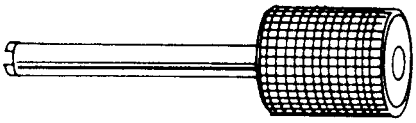
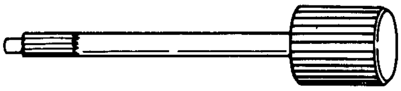
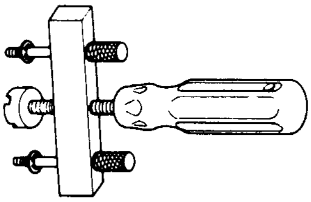
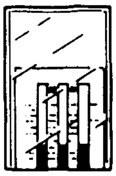
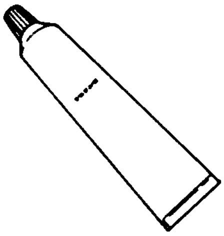
2-4-16. ASSEMBLY OF THE MECHANISM CHASSIS

1) Install the MECHANISM CONNECTION C.B.A. onto the chassis. Then install the chassis into the frame and connect all the cables and connectors.

2) Clean the DD CYLINDER after reinstallation.

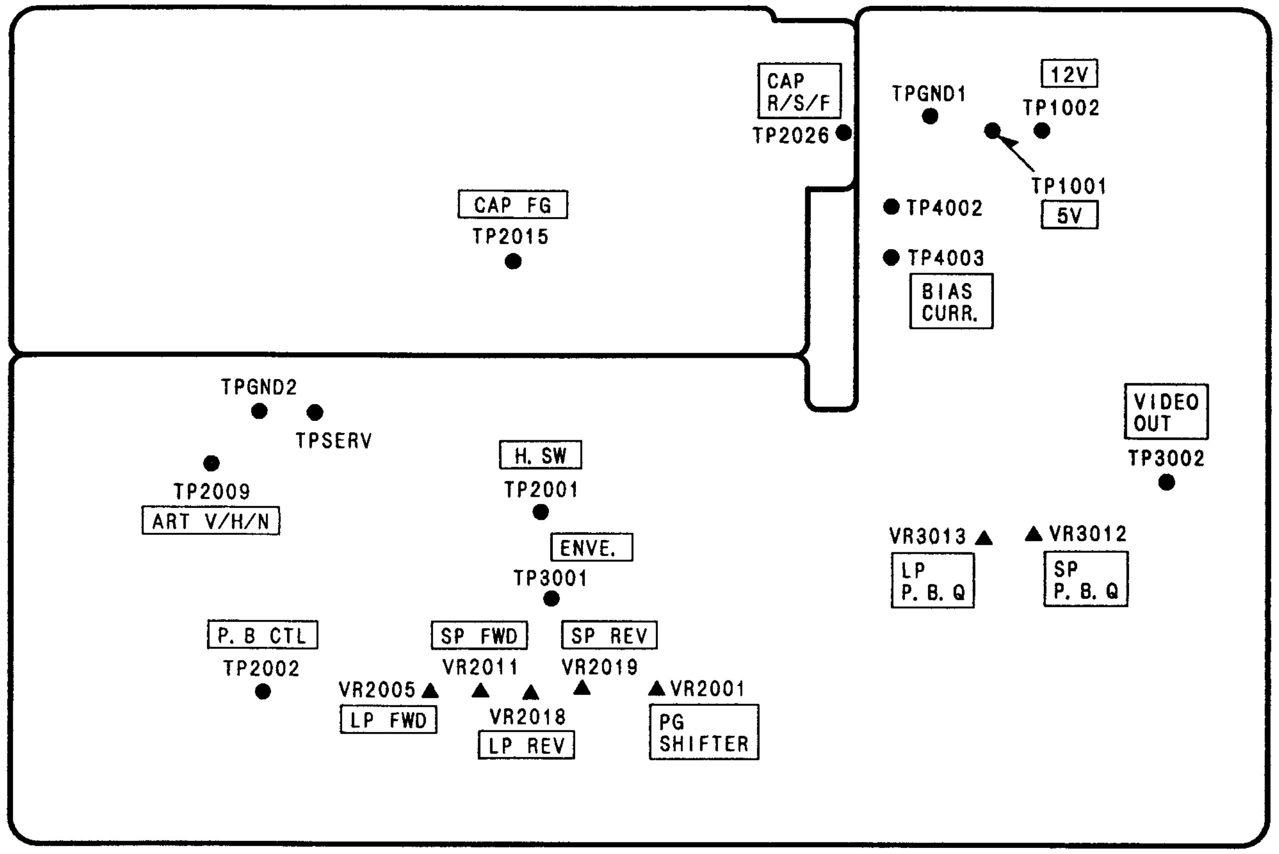
3) Insert a cassette and adjust the tape travel and check all the operation modes.

Servicing Fixtures & Tools

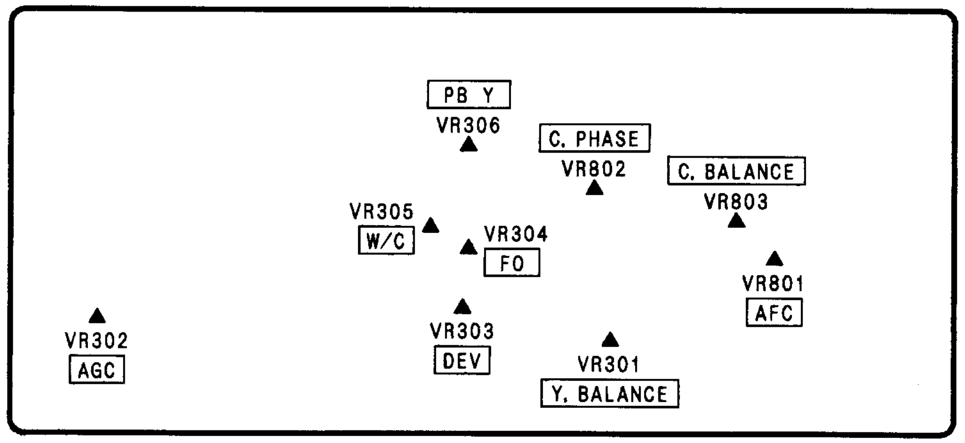
VFJ8125H3F PAL VHS Alignment Tape VFM8080HQFP NTSC VHS Alignment Tape 	VFK0132 Back Tension Meter (Tentelometer, Made in U.S.A.) 	VFK0335 Retaining Ring Remover (3mm/4mm) 
VFK0326 Hex. Wrench Set (0.7, 0.9, 1.2, 1.5, 1.6, 2.0, 2.4, 3.0mm) 	VFK0329 Post Adjustment Screw Driver 	VFK0330 Fine Adjustment Gear Driver 
VFK0341 Upper Cylinder Remover 	VFK27 Hand Cleaning Stick 	MOR265 Morlytone Grease 

LOCATION OF TEST POINTS & CONTROLS

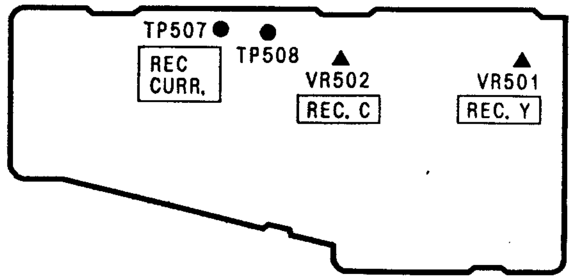
MAIN C.B.A.


CAP
R/S/F
TP2026
CAP FG
TP2015
TPGND1
12V
TP1002
TP1001
5V
TP4002
TP4003
BIAS
CURR.
TPGND2
TPSERV
TP2009
ART V/H/N
H. SW
TP2001
ENVE.
TP3001
VIDEO
OUT
TP3002
VR3013
VR3012
LP
P. B. Q
SP
P. B. Q
P. B CTL
TP2002
SP FWD
VR2011
SP REV
VR2019
VR2005
LP FWD
VR2018
LP REV
VR2001
PG
SHIFTER

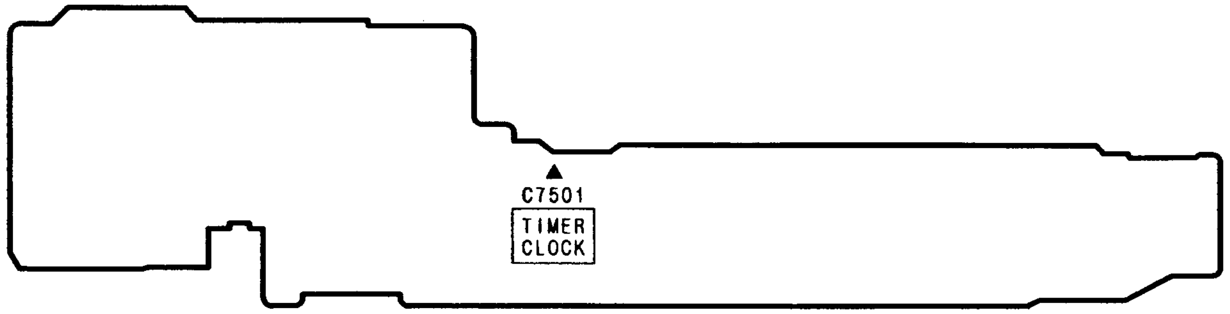
LUMINANCE & CHROMINANCE PACK C.B.A.


PB Y
VR306
C. PHASE
VR802
C. BALANCE
VR803
VR305
W/C
VR304
FO
VR801
AFC
VR302
AGC
VR303
DEV
VR301
Y. BALANCE

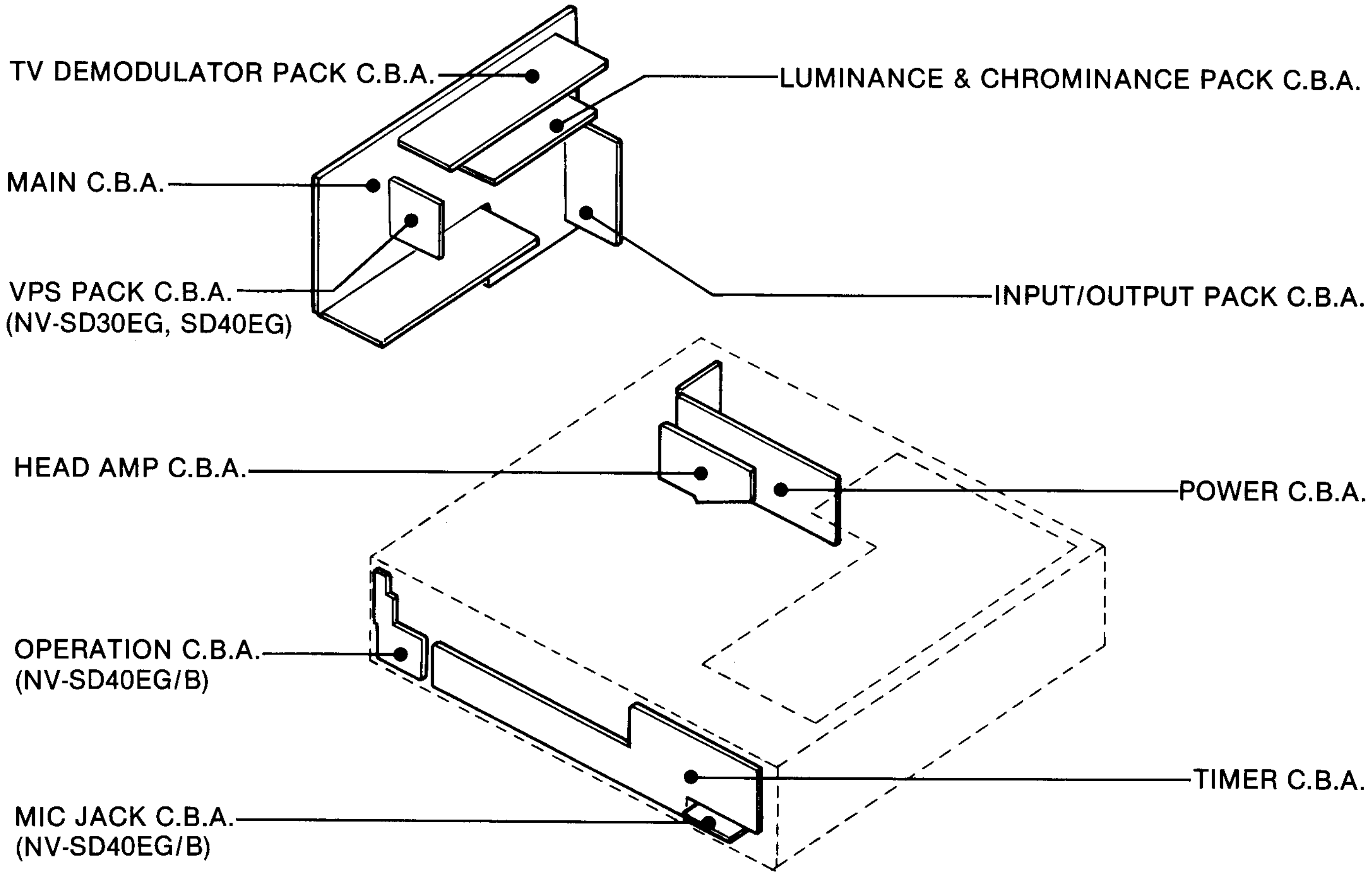
HEAD AMP C.B.A.


TP507
TP508
REC
CURR.
VR502
REC. C
VR501
REC. Y

TIMER C.B.A.


C7501
TIMER
CLOCK

CIRCUIT BOARD LAYOUT


TV DEMODULATOR PACK C.B.A.
LUMINANCE & CHROMINANCE PACK C.B.A.
MAIN C.B.A.
VPS PACK C.B.A.
(NV-SD30EG, SD40EG)
INPUT/OUTPUT PACK C.B.A.
HEAD AMP C.B.A.
POWER C.B.A.
OPERATION C.B.A.
(NV-SD40EG/B)
TIMER C.B.A.
MIC JACK C.B.A.
(NV-SD40EG/B)

2-5. ELECTRICAL ADJUSTMENT PROCEDURES

2–5. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete adjustment procedures required for electric circuits of VHS Video Cassette Recorders.

2–5–1. TEST EQUIPMENT

To perform electrical adjustments following equipment is required.

1. Dual–Trace Oscilloscope. (More than 35 MHz)
   Voltage Range: 0.005–5V/div
   Frequency Range: DC–35MHz
   Probes: 10:1
2. Frequency Counter.
   Frequency Range: 0–10MHz
   Probes: 1:1
3. Universal Counter.
4. Vacuum Tube Volt Meter. (V.T.V.M.)
5. Video Sweep Generator.
6. Sine Wave Generator.
7. Video Pattern Generator.
8. VHS Alignment Tape. (VFJ8125H3F)
9. VHS Blank Tape.
10. Monitor.
11. Plastic Tip Driver.
12. DC Power Supply

2–5–2. PREPARATION

During adjustment, set each selector as follows: when no indication in the procedure.

EDIT SW.....OFF (NV–SD40B/EG)
TEST SIGNAL SW (REAR).....OFF
TAPE SPEED.....SP

2–5–3. HOW TO READ ADJUSTMENT PROCEDURES

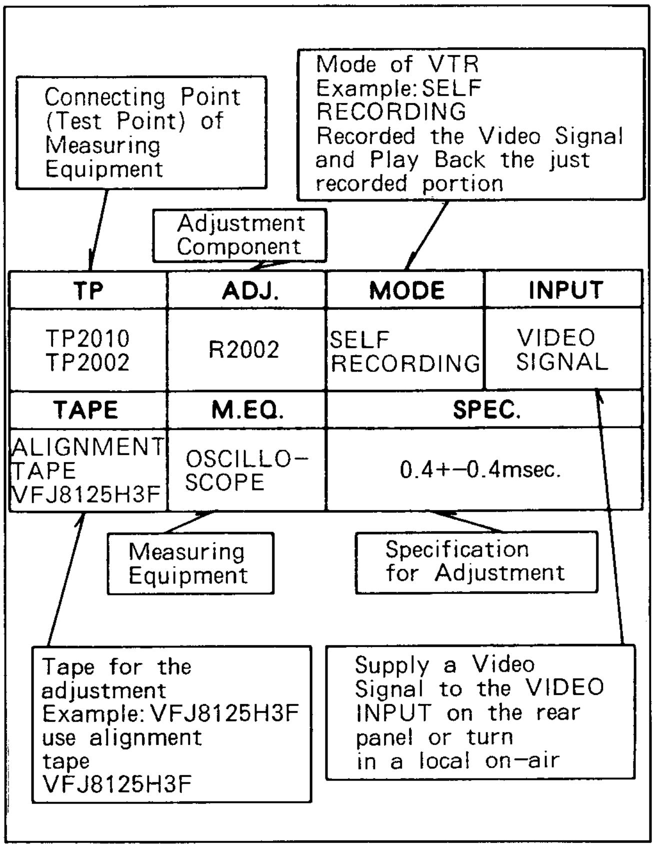

Connecting Point (Test Point) of Measuring Equipment
Mode of VTR Example: SELF RECORDING Recorded the Video Signal and Play Back the just recorded portion
Adjustment Component
TP
ADJ.
MODE
INPUT
TP2010 TP2002
R2002
SELF RECORDING
VIDEO SIGNAL
TAPE
M.EQ.
SPEC.
ALIGNMENT TAPE VFJ8125H3F
OSCILLO–SCOPE
0.4+–0.4msec.
Measuring Equipment
Specification for Adjustment
Tape for the adjustment Example: VFJ8125H3F use alignment tape VFJ8125H3F
Supply a Video Signal to the VIDEO INPUT on the rear panel or turn in a local on–air

Fig. E1

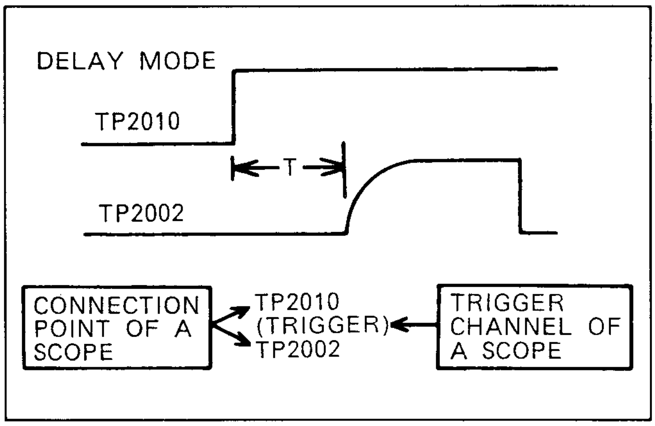

DELAY MODE
TP2010
T
TP2002
CONNECTION POINT OF A SCOPE
TP2010 (TRIGGER)
TP2002
TRIGGER CHANNEL OF A SCOPE

Fig. E2

SERVO SECTION

2-5-4. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 TP3002	VR2001	PLAYBACK	
TAPE	**M. EQ.**	**SPEC.**	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO-SCOPE	6.5+-0.5(H) [NV-SD30B/EG] 7.0+-0.5(H) [NV-SD40B/EG]	

1. Connect the oscilloscope to TP2001(H.SW) and TP3002(V.OUT)
2. Playback the alignment tape.
3. Adjust VR2001 so that phase difference between falling edge of Head SW pulse and V-Sync is 6.5+-0.5(H) [NV-SD30B/EG] / 7.0+-0.5(H) [NV-SD40B/EG]

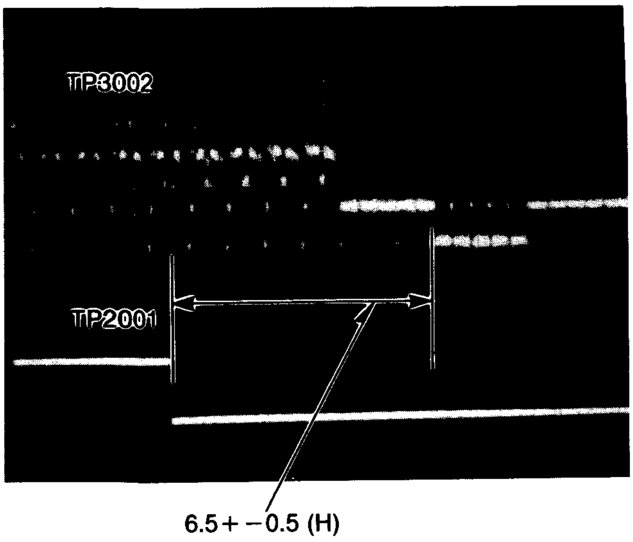

TP3002
TP2001
6.5+-0.5 (H)
[NV-SD30EG/B]
7.0+-0.5 (H)
[NV-SD40EG/B]
TP3002 VIDEO
TP2001 H. SW (TRIGGER)

Fig. E3

2-5-5. SLOW TRACKING ADJUSTMENT

TP	ADJ.	MODE	INPUT
MONITOR SCREEN	VR2011(SP) VR2006(LP)	SP (SELF RECORDED) STILL	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	MONITOR TV	A=B (A+B)/V<1/6	

1. Short out the cut jumper wire as shown in Fig.E4.
2. Record the colour bar in SP(LP) mode for a few minutes and playback the just recorded portion.
3. Place the unit in SLOW mode by pressing search button on Remote Controller Unit.
4. Adjust VR2011(SP)(VR2006(LP)) until noise bar on the monitor screen is minimized.(Detail specifications are shown in Fig.E5)
5. Disconnect the short across jumper wire.

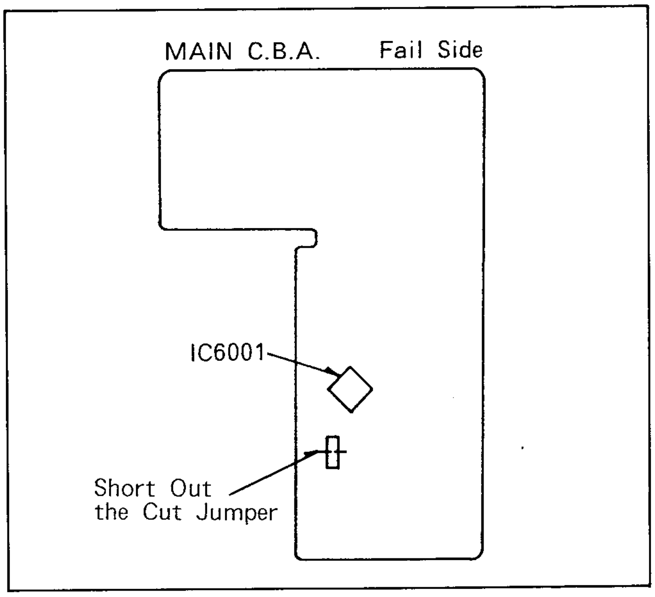

MAIN C.B.A.
Fail Side
IC6001
Short Out
the Cut Jumper

Fig. E4

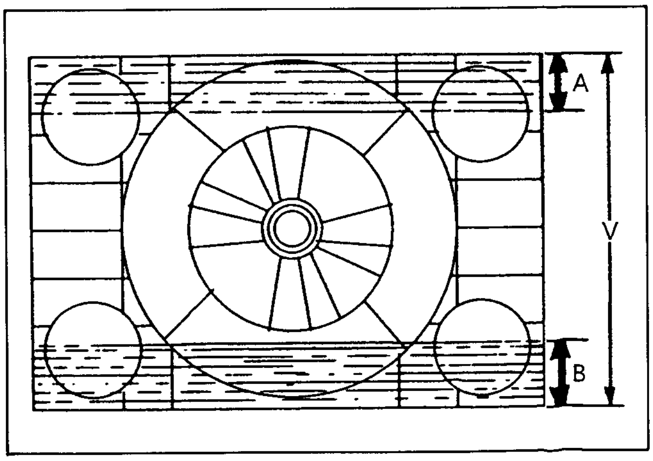


Fig. E5

2–5–6. REVERSE SLOW TRACKING ADJUSTMENT

TP	ADJ.	MODE	INPUT
MONITOR SCREEN	VR2019(SP) VR2018(LP)	REVERSE SLOW	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	MONITOR TV	SP:A=B (A+B)/V=<1/6 LP:A=0 B/V=<1/3	

1. Short out the cut jumper wire as shown in Fig.E4.
2. Record the colour bar in SP(LP) mode for a few minutes and playback the just recorded portion.
3. Place the unit in SLOW mode by pressing search button on Remote Controller Unit.
4. Adjust VR2019(SP)(VR2018(LP)) until noise bar on the monitor screen in minimized. (Detail specifications are shown in Fig.E5)
5. Disconnect the short across jumper wire.

LUMINANCE & CHROMINANCE SECTION

2–5–7. AGC ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR302	STOP	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	2.0+–0.06(Vp–p)	

1. Supply the colour bar signal to video input.
2. Conect the oscilloscope to video output(from the AV21–pin) (unterminated).
3. Adjust VR302 so that the video output signal level is 2.0+–0.06Vp–p.

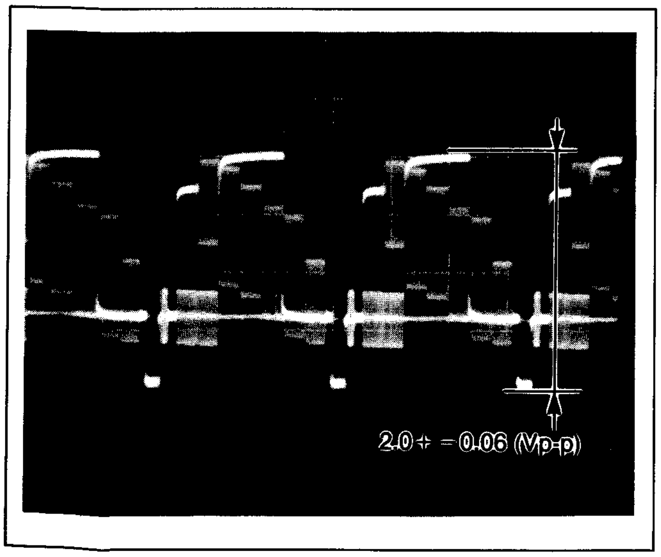


Fig. E6

2–5–8. WHITE CLIP ADJUSTMENT

TP	ADJ.	MODE	INPUT
PIN(80) OF IC302	VR305	RECORDING	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	WHITE CLIP LEVEL 190+5/–3%	

1. Supply the colour bar signal to video input.
2. Connect the oscilloscope to PIN(80) of IC302.
3. Record the colour bar signal.
4. Adjust VR305 so that the white clip level is 190+5/–3%.

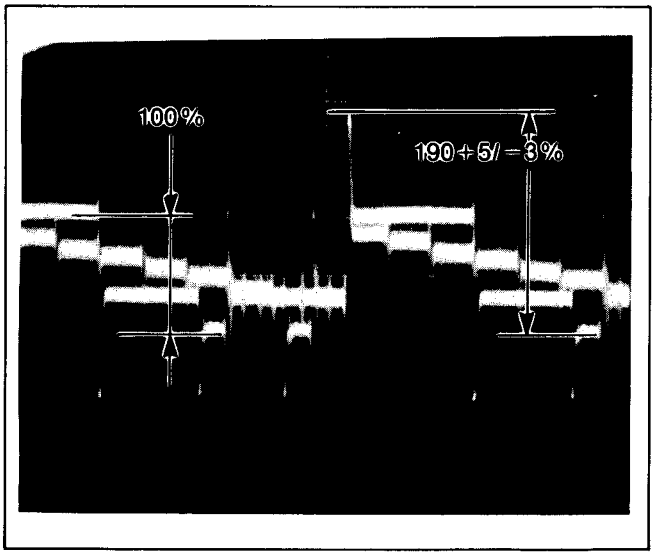


Fig. E7

2–5–9. DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR303 VR304	(SELF RECORDED) PLAYBACK	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	Y:2.0+–0.1(Vp–p)	

Note :

Before this adjustment, the PLAYBACK LEVEL ADJUSTMENT(2–6–12) must be adjusted.

1. Supply the colour bar signal to video input.
2. Connect the oscilloscope to video output.
3. Record the colour bar signal and adjust VR303 and VR304 during recording.
4. Playback the just recorded portion and confirm the playback Y–signal level is 2.0+–0.1Vp–p. If the signal level is out of the specification, repeat 3. and 4. until the signal level becomes the specification.

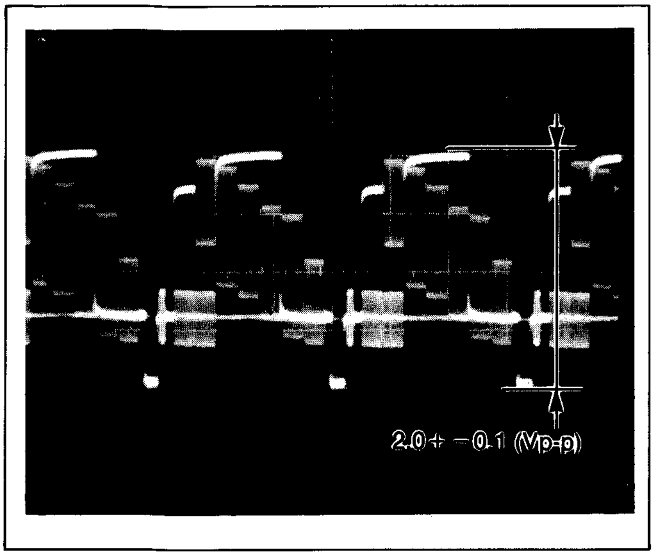


Fig. E8

2–5–10. Y–NR BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
PIN(71) OF IC302	VR301	STOP	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	MINIMIZED AS POSSIBLE	

1. Supply the colour bar signal to video input.
2. Connect the oscilloscope to PIN(71) of IC302.
3. Adjust VR301 so that the video signal level is minimized.

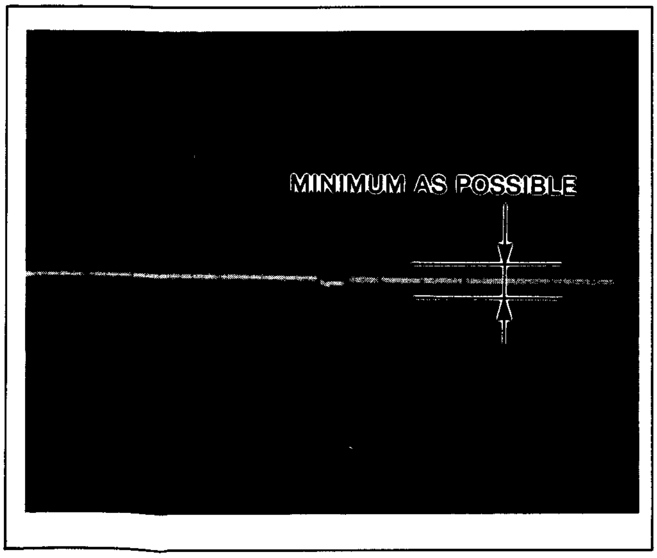


Fig. E9

2–5–11. ARTIFICIAL NTSC AFC FREE RUN ADJUSTMENT (EXCEPT NV–SD30B/EG)

TP	ADJ.	MODE	INPUT
PIN(9) OF IC801	VR301	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	DC POWER SUPPLY FREQUENCY COUNTER	15735Hz+−100Hz	

1. Supply +5V DC to PIN(29) of IC801.
2. Connect the frequency counter to TL801.
3. Adjust VR801 so that the frequency is 15735Hz+−100Hz.

2–5–12. PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR306	PLAYBACK	
TAPE	**M. EQ.**	**SPEC.**	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO-SCOPE	Y: 2.0+−0.1Vp−p CYAN: 1.1+−0.2Vp−p	

1. Connect the oscilloscope to video output.
2. Playback the alignment tape (colour bar portion).
3. Adjust VR306 so that the playback signal level is as follows.

Y–LEVEL : 2.0+−0.1Vp−p
CYAN–LEVEL : 1.1+−0.2Vp−p

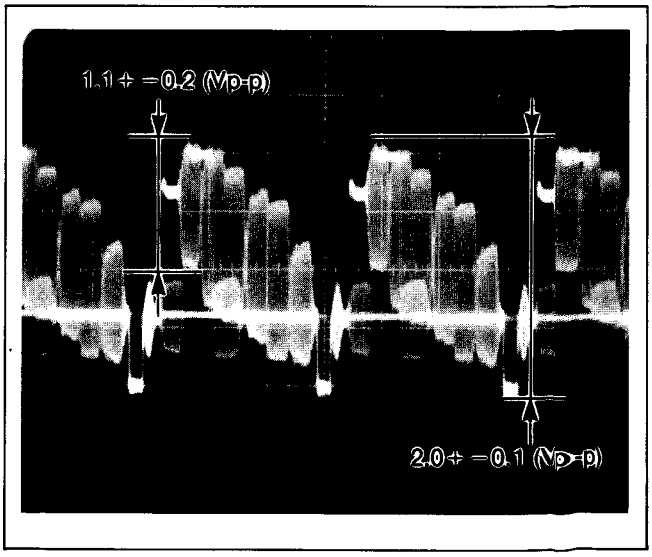


Fig. E10

2-5-13. C-NR ADJUSTMENT

TP	ADJ.	MODE	INPUT
PIN(42) OF IC302	VR802 VR803	SELF REC&PB	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	MINIMIZE AMPLITUDE	

1. Record the colour bar signal and playback the just recorded portion.
2. Connect the oscilloscope to PIN(42) of IC302.
3. Adjust VR802 and VR803 until the signal is minimum.

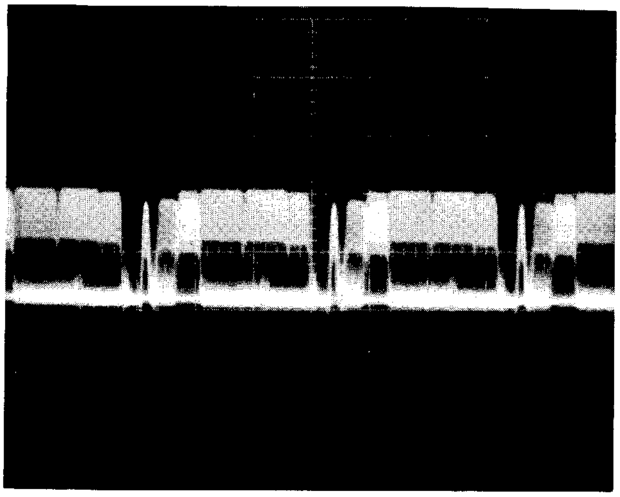


Fig. E11 Before adjustment

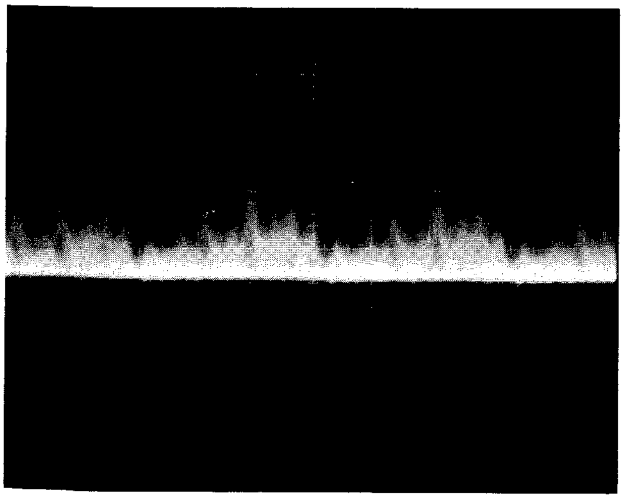


Fig. E12 After adjustment

2-5-14. RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507(HOT) TP508(GND)	VR501(Y) VR502(C)	RECORDING	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	Y:150+−5(mVp−p) C:37+−2(mVp−p) [NV−SD30B/EG] Y:130+−5(mVp−p) C:32+−2(mVp−p) [NV−SD40B/EG]	

1. Record the colour bar signal.
2. Connect the oscilloscope to TP507(HOT) and TP508(GND).
3. Adjust VR501 so the amplitude of sync tip portion is 150 +− 5mVp−p [NV−SD30B/EG] 130+−5mVp−p[NV−SD40B/EG].
4. Supply +5V DC to PP3001−6 to reduce luminance component.
5. Adjust VR502 until the amplitude of Cyan is 2mVp−p [NV−SD30B/EG] / 32+−2mVp−p [NV−SD40B/EG].

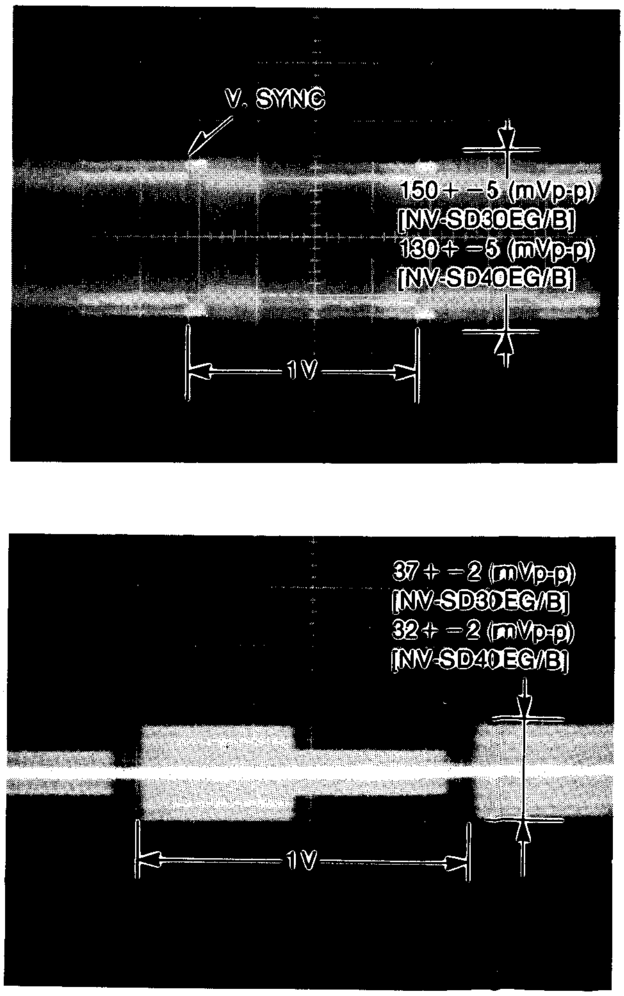


Fig. E13

2–5–15. VIDEO FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR3012(SP) VR3013(LP)	(SELF RECORDED) PLAYBACK (SP/LP)	VIDEO SWEEP SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE VIDEO SWEEP GENERATOR	SP:0+−1(dB) (90 − 110%) LP:0+−1(dB) (90 − 110%)	

Note:

(1) Set the Video Sweep Signal as shown in Fig.E14.

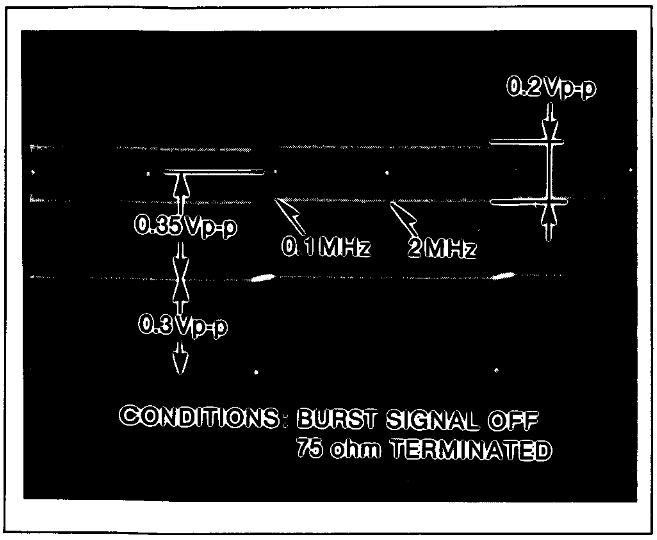


Fig. E14

1. Record the Video Sweep Signal in SP/(LP) mode for a few minutes and playback the just recorded signal.
2. Connect the oscilloscope to TP3002.
3. Adjust VR3012(SP)(VR3013(LP)) until the frequency response level is 0+−1dB at 2MHz portion by comparing with 0.1MHz portion.

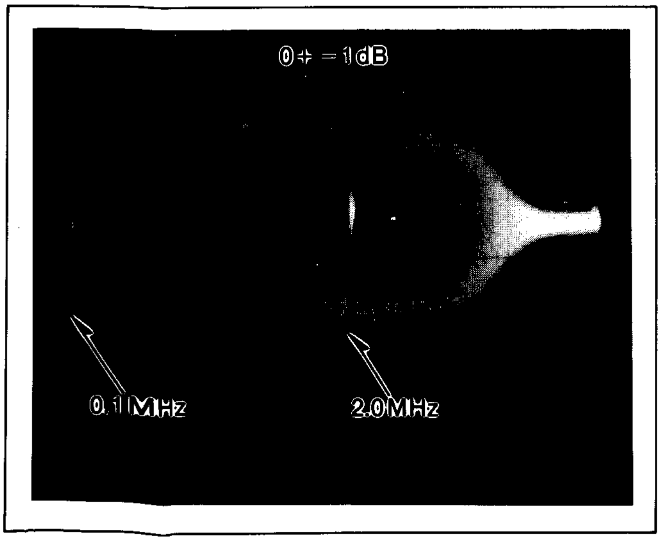


Fig. E15

AUDIO SECTION

2–5–16. BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002 (HOT) TP4003 (GND)	VR4002	RECORDING	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	V.T.V.M.	2.8+−0.1(mVrms) [NV−SD30B/EG] 2.9+−0.1(mVrms) [NV−SD40B/EG]	

Note:

Connect the Audio input and GND.

1. Place the unit in SP recording mode.
2. Connect the V.T.V.M. to TP4002(HOT) and TP4003(GND).
3. Adjust VR4002 so reading of V.T.V.M. is 2.8+−0.1mVrms[NV−SD30B/EG]/ 2.9+−0.1(mVrms) [NV−SD40B/EG].

TIMER SECTION

2–5–17. TIMER REFERENCE CLOCK ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7501−28	C7501	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	UNIVERSAL COUNTER	7812.5+−0.015(us)	

1. Connect the universal counter to TP7501−28.
2. Adjust C7501 so the reading of universal counter is 7812.5+−0.015us.

SECTION 3
ABBREVIATIONS & BLOCK DIAGRAMS

3-1. ABBREVIATIONS

443NT [L]	4.43 NTSC Ⓛ
A. COMP	AUDIO COMPONENT SIGNAL
A. COMPO	AUDIO COMPONENT SIGNAL
A. D.P [L]	AUDIO DUBBING PAUSE Ⓛ
A. D/L [L]	AUDIO DUBBING PAUSE Ⓛ
A. DEF [S]	AUDIO DEFEAT
A. DEF [S] [L]	AUDIO DEFEAT
A. DUB P [L]	AUDIO DUBBING PAUSE Ⓛ
A. DUB [H]	AUDIO DUBBING Ⓗ
A. ERASE	AUDIO ERASE
A. H. SW	AUDIO HEAD SWITCHING PULSE
A. HEAD [R]	AUDIO HEAD (REC)
A. HEAD [W]	AUDIO HEAD (PLAY)
A. IN [L]	AUDIO INPUT (L)
A. IN [R]	AUDIO INPUT (R)
A. MUT [H]	AUDIO MUTE Ⓗ
A. MUTE [H]	AUDIO MUTE Ⓗ
A. OUT [L]	AUDIO OUTPUT (L)
A. OUT [R]	AUDIO OUTPUT (R)
A. RF OUT	AUDIO RF SIGNAL OUTPUT
A/VS/S. DATA	AV SW/SERIAL DATA
AC ONLINE	AC ONLINE
AC. O/EE. H	AC ONLINE/EE Ⓗ
AFC S C	AFC S CURVE
AFC [S]	AFC S CURVE
AFC. DEF	AFC DEFEAT
ARFC OUT	AUDIO RF SIGNAL OUTPUT
ART. V	ARTIFICIAL VERTICAL SYNC SIGNAL
ART. V. MM	ARTIFICIAL VERTICAL SYNC SIGNAL MONO MULTI
ART. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL Ⓗ/NORMAL
AT. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL
ATSW/TEST/NOR/SE	TEST/NORMAL/SERVICE
AUDIO IN [L]	AUDIO INPUT (L)
AUDIO IN [R]	AUDIO INPUT (R)
AUDIO OUT [L]	AUDIO OUTPUT (L)
AUDIO OUT [R]	AUDIO OUTPUT (R)
AUDIO SELECT [H]	AUDIO SELECT Ⓗ
AUDIO. L	AUDIO (L)
AUDIO. R	AUDIO (R)
AV CNT	AV CONTROL
AV CTL	AV CONTROL
AV CTL/S. CLK	AV CONTROL/SERIAL CLOCK
AV. C.M.	AV CONTROL MODE
AVCNT/METER. R	AV CONTROL/LEVEL METER (R)
AVSW/METER. L	AV SW/LEVEL METER (L)
B MODE. H	B MODE Ⓗ
B.G.P	BURST GATE PULSE
BACKUP 5V	BACK UP 5V
BAND. U.E.	BAND U
BANDVL. D	BAND VL
BI/MI [L]	BILINGUAL/MIX Ⓛ
BIL	BILINGUAL
BIL [L]	BILINGUAL Ⓛ
BIL. [H]	BILINGUAL Ⓗ
BIL/M1 [L]	BILINGUAL Ⓛ
BS CLOCK	BS CLOCK
BS DATA	BS DATA
BS LCH IN	BS L CHANNEL INPUT
BS MIX [H]	BS MIX Ⓗ
BS MON [H]	BS MONITOR Ⓗ
BS MONI [H]	BS MONITOR Ⓗ
BS RCH IN	BS R CHANNEL INPUT
BS VIDEO	BS VIDEO SIGNAL
BS VIDEO/BS1	BS VIDEO SIGNAL
BS [H]	BS Ⓗ
BS. LEVEL	BS LEVEL
BS. M [H]	BS MONITOR Ⓗ
BS/VTR [H]	BS/VTR Ⓗ
BUS CLK	BUS CLOCK
BUS LSN	BUS LISTEN
BUS TLK	BUS TALK
BUZZER	BUZZER
CAP EC	CAPSTAN TORQUE CONTROL
CAP M GND	CAPSTAN MOTOR GND
CAP. ET	CAPSTAN TORQUE CONTROL
CAP. FG1	CAPSTAN FG1 PULSE
CAP. FG2	CAPSTAN FG2 PULSE
CAS. SW	CASSETTE SW
CCN	PLAYBACK CONTROL SIGNAL (−)
CCP	PLAYBACK CONTROL SIGNAL (+)
CHM	CONTROL SIGNAL (+)
CHP	CONTROL SIGNAL (−)
CINEM [L]	CINEMA Ⓛ
CINEMA [L]	CINEMA Ⓛ
CINEMA/MIX	CINEMA/MIX
CKL	RATCH LOCK
CKS	SHIFT LOCK
CL	CLOCK
CLK	CLOCK
CLK (C.G)	CLOCK
CLOCK. IN	CLOCK INPUT
CLP	CLAMP
COL/B/W/NOR	COLOUR/BLACK & WHITE/NORMAL
COLOR [H]	COLOUR Ⓗ
CONV	CONVERTOR
CS	CHIP SELECT
CTL GND	CONTROL GND
CTL HEAD [+]	CONTROL HEAD (+)
CTL HEAD [−]	CONTROL HEAD (−)
CTL [+]	CONTROL HEAD (+)
CTL [−]	CONTROL HEAD (−)
CUE BIAS	CUE BIAS
CURRENT LIM	CURRENT LIMMITER
CYL ET	CYLINDER TORQUE CONTROL
CYL GND	CYLINDER GND
D.F.M. REC [H]	DELAIED FM RECORDING Ⓗ
D. FM REC [L]	DELAIED FM RECORDING Ⓛ
D. GND	DIGITAL GND

D. REC [H]	DELAYED RECORDING Ⓗ
D4/S. LED	D4/STILL LED
D4/STILLED	D4/STILL LED
DAC [CLK]	TUNER DAC (CLOCK)
DAC/FSCS	TUNER DAC/FS CHIP SELECT
DAREC [H]	DELAYED AUDIO RECORDING Ⓗ
DATA	DATA
DECODER [L]	DECODER (L)
DECODER [R]	DECODER (R)
DEW	DEW
DEW SNS	DEW SENSOR
DFMRE [H]	DELAYED FM AUDIO RECORDING Ⓗ
E. REC 5V	EXCEPT RECORDING 5V
EC	ERROR TORQUE CONTROL
ECR	ERROR TORQUE CONTROL REFERENCE VOLTAGE
EDT TRIG [L]	EDIT TRIGGER Ⓛ
EDIT [H]	EDIT Ⓗ
EE [H]	EE Ⓗ
EE [H]/INS [M]	EE Ⓗ/INSERT Ⓜ
EE. VV. TR	EE/VV/TRICK PLAY
EJECT. PO	EJECT POSITION
EJECT/VDET	EJECT/REVERSE SLOW LOCK
ENV. SEL	ENVELOPE SELECT
ENVE. OUT	ENVELOPE OUTPUT
ENVE. SEL	ENVELOPE SELECT
ENV SELECT	ENVELOPE SELECT
EP [H]	LP Ⓗ
EP/LP [H]	LP Ⓗ
EP/LP/SP	LP/SP
EP/SS [H]	LP/SLOW/STILL/STOP Ⓗ
EPROMCS	EPROM CHIP SELECT
EX. REC 5V	EXCEPT RECORDING 5V
FF/REW [L]	FIRST FORWARD/REWIND Ⓛ
FG1 IN	FG1 PULSE INPUT
FG2 IN	FG2 PULSE INPUT
FILTER ADJUSTMEN	FILTER ADJUSTMENT
FLY ERASE [H]	FLYING ERASE HEAD ON Ⓗ
FLY ON [H]	FLYING ERASE E HEAD ON Ⓗ
FLY. E [H]	FLYING ERASE HEAD ON Ⓗ
FM MUT [H]	FM AUDIO MUTE Ⓗ
FM MUTE [H]	FM AUDIO MUTE Ⓗ
FM OUT [L]	FM OUTPUT (L)
FM OUT [R]	FM OUTPUT (R)
FM PACK OUT [L]	FM PACK OUTPUT (L)
FM PACK OUT [R]	FM PACK OUTPUT (R)
FM/BS SEL [L]	FM/BS SELECT (L)
FM/BS SEL [R]	FM/BS SELECT (R)
FS. CLK	FS CLOCK
FUL. E [H]	FULL ERASE HEAD ON Ⓗ
FULL. E [H]	FULL ERASE HEAD ON Ⓗ
FULL. E. 12V	FULL ERASE 12V
GND [A]	GND (ANALOGUE)
GND [TU]	GND (TUNER)
GND/N. SW. 12V	GND/NON SW 12V
H. SYNC	HORIZONTAL SYNC
H. AMP. SW	HEAD AMP SW PULSE
H. P <R>	HEAD PHONE (R)
H. P <L>	HEAD PHONE (L)
H. P GND	HEAD PHONE GND
H. P OUT [L]	HEAD PHONE OUTPUT (L)
H. P OUT [R]	HEAD PHONE OUTPUT (R)
H. SW	HEAD SW PULSE
HEAD PHONE [L]	HEAD PHONE (L)
HEAD PHONE [R]	HEAD PHONE (R)
HEAD SW	HEAD SW
HEATER [+]	HEATER (+)
HEATER [−]	HEATER (−)
HSS	HORIZONTAL SYNC SIGNAL
HTR [+]	HEATER (+)
HTR [−]	HEATER (−)
I RFE	REFERENCE CURRENT
ICL	CONTROL AGC CIRCUIT
IF	INTERMEDIATE FREQUENCY
IN SELA1	INPUT SELECT A1 POSITION
IN SELA2	INPUT SELECT A2 POSITION
IN SELA3	INPUT SELECT A3 POSITION
INS L/R [L]	INSERT Lch/Rch Ⓛ
INS. [H]	INSERT Ⓗ
INSEL A1	INPUT SELECT A1 POSITION
INSEL A2	INPUT SELECT A2 POSITION
INSERT	INSERT
INSERT [H]	INSERT Ⓗ
IO CS	INPUT/OUTPUT CHIP SELECT
JOG1	JOG1
JOG S3 LED/FOWRD	JOG LED/FORWARD LED
JOG/F. LED	JOG LED/FORWARD LED
JSB [H]	JSB Ⓗ
JST. CLCK	JUST CLOCK
JST. CLK	JUST CLOCK
JST. CLOCK	JUST CLOCK
L. OUT	Lch OUTPUT
L. CH [H]	Lch Ⓗ
L. CH [L]	Lch Ⓛ
LED (MAIN)	LED (MAIN)
LED (STEREO)	LED (STEREO)
LED (SUB)	LED (SUB)
LED CKL	LED SERIAL CLOCK
LED CKS	LED SERIAL CLOCK
LED DATA	LED SERIAL DATA
LINE IN 1 [L]	LINE INPUT 1 (L)
LINE IN 1 [R]	LINE INPUT 1 (R)
LINE IN 2 [L]	LINE INPUT 2 (L)
LINE IN 2 [R]	LINE INPUT 2 (R)
LINE IN V	LINE INPUT VIDEO
LINE IN [L]	LINE INPUT (L)
LINE IN [R]	LINE INPUT (R)
LINE OUT [L]	LINE OUTPUT (L)
LINE OUT [R]	LINE OUTPUT (R)
LP [H]	LP Ⓗ

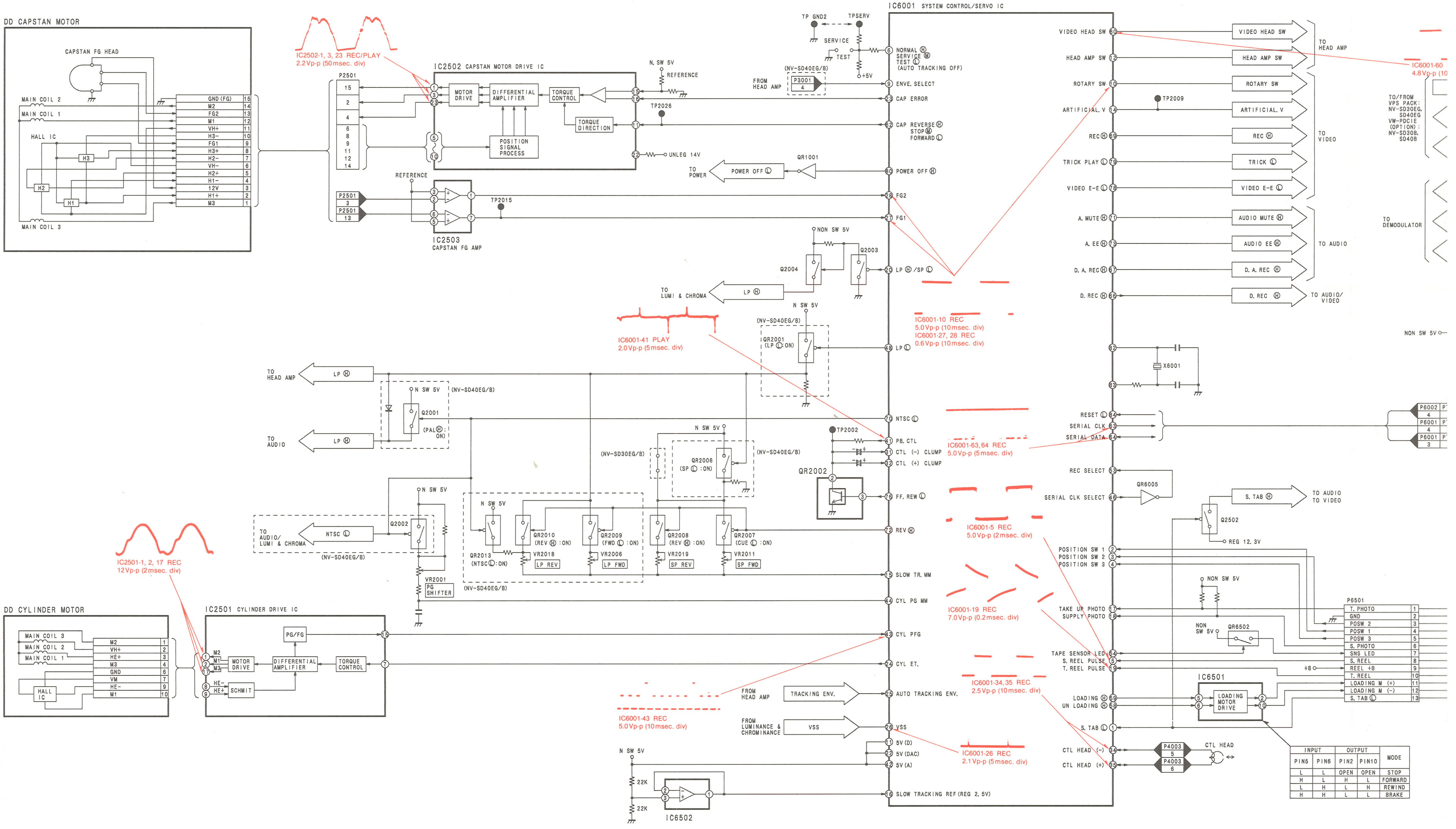
LPTRI [L]	LP TRICK PLAY Ⓛ
Lch/A. DUB	Lch/AUDIO DUBBING
M GND	MOTOR GND
M REG	MOTOR REGULATOR
MAIN OUT	MAIN OUTPUT
MAIN [L]	MAIN Ⓛ
MAIN/MONO	MAIN/MONAURAL
MAX IN	MAXIMAM INPUT
MES [H]	MESECAM Ⓗ
MESE [H]	MESECAM Ⓗ
MESE [L]	MESECAM Ⓛ
METER 5V	LEVEL METER 5V
METER [L]	LEVEL METER (L)
METER [R]	LEVEL METER (R)
METER. L/AVS	LEVEL METER (L)
METER. R/AVC	LEVEL METER (R)
MI/BI [L]	MIX Ⓗ/BILIGUAL
MIC GND	MIC GND
MIC IN	MIC INPUT
MIC IN [L]	MIC INPUT (L)
MIC IN [R]	MIC INPUT (R)
MIC [H]	MIC Ⓗ
MIX [H]	MIX Ⓗ
MIX [H]/CINEMA [L]	MIX Ⓗ/CINEMA SOUND Ⓛ
MIX/CINE	MIX Ⓗ/CINEMA SOUND Ⓛ
MIX/CINEMA [L]	MIX Ⓗ/CINEMA SOUND Ⓛ
MN. H/M. L	MONAURAL Ⓗ/MAIN Ⓛ
MN. H/MAI. L	MONAURAL Ⓗ/MAIN Ⓛ
MN2/MES. L	MONAURAL 2/MESECAM Ⓛ
MODE SEL	AUDIO MODE SELECT
MODE SW	AUDIO MODE SW
MODE. S. IN	AUDIO MODE SELECT INPUT
MODE. S. OUT	AUDIO MODE SELECT OUTPUT
MONO [H]	MONAURAL Ⓗ
MONO [H]/MAIN [L]	MONAURAL Ⓗ/MAIN Ⓛ
MONO2 [L]	MONAURAL 2
MONO2/MESE [FM(L)]	MONAURAL 2/MESECAM (FM Ⓛ)
MOTOR GND	MOTOR GND
MUTE	MUTE
N. A. REC [L]	NORMAL AUDIO RECORDING
N. SW 12V	NON SW 12V
N. SW. 5. DET	NON SW 5V DETECT
NICAM	NICAM
NICAM [L]	NICAM Ⓛ
NOL [H]	PAL Ⓗ/4.43 NTSC Ⓜ/3.58 NTSC Ⓛ
NOR/SOFT [H]	NORMAL/SOFT TAPE PLAY Ⓗ
NORMAL [H]	NORMAL Ⓗ
NR BIAS	NR BIAS
NTSC [L]	NTSC Ⓛ
OCH	CONTROL AGC CIRCUIT
OUT	OUTPUT
P-OFF [H]	POWER OFF Ⓗ
P-OFF [L]	POWER OFF Ⓛ
P. FAIL	POWER FAILURE DETECT
P. OFF [H]	POWER OFF Ⓗ

P. OFF [L]	POWER OFF Ⓛ
PAL [H]	PAL Ⓗ
PAL [L]/NTSC [H]	PAL Ⓛ/NTSC Ⓗ
PB ADJ OUT	PLAYBACK ADJUST OUTPUT
PB OUT	PLAYBACK OUTPUT
PB. H	PLAYBACK Ⓗ
PFG	PG/FG
PHOTSN +B	PHOTO SENSOR +B
PICT. CNT	PICTURE CONTROL
PLAY LED/RVS LED	PLAY LED/REVERSE LED
PLAY. PO	PLAY POSITION
PLAY/R. LED	PLAY LED/REVERSE LED
PLY/DEW	PLAY/DEW Ⓗ
POWER OFF [L]	POWER OFF Ⓛ
PREROLL [H]	PREROLL Ⓗ
PWRFAIL	POWER FAILURE DETECT
R. CH [H]	Rch Ⓗ
R. CH [L]	Rch Ⓛ
R. ST	RESET
R/S/F	REVERSE Ⓗ/STOP Ⓜ/FORWARD Ⓛ
RCH [H]	Rch Ⓗ
REC 12V	RECORDING 12V
REC CHROMA	RECORDING CHROMINANCE SIGNAL
REC H	RECORDING Ⓗ
REC IN	RECORDING INPUT
REC OUT [L]	RECORDING OUTPUT Ⓛ
REC START	RECORDING START
REC VR [C]	RECORDING VOLUME (COMMON)
REC VR [L]	RECORDING VOLUME (L)
REC VR [R]	RECORDING VOLUME (R)
REC Y	RECORDING LUMINANCE SIGNAL
REC [H]	RECORDING Ⓗ
REC. C	RECORDING CHROMINANCE SIGNAL
REC. Y	RECORDING LUMINANCE SIGNAL
REC/EE CTL	RECORDING/EE CONTROL
REEL-T	REEL PULSE (TAKE-UP)
REEL-S	REEL PULSE (SUPPLY)
REGULATOR FILTER	REGULATOR FILTER
RESET	RESET
REV M F/R	REVIEW MOTOR FORWARD/REVERSE
REV M V1	REVIEW MOTOR V1
REV M V2	REVIEW MOTOR V2
REV MOTOR F/R	REVIEW MOTOR FORWARD/REVERSE
REV MOTOR V1	REVIEW MOROR V1
REV MOTOR V2	REVIEW MOTOR V2
REV MOTOR [+]	REVIEW MOTOR (+)
REV MOTOR [−]	REVIEW MOTOR (−)
REV. M. GND	REVIEW MOTOR GND
RF. CHROMA	RF CHROMINANCE SIGNAL
RF OUT	RF OUTPUT
RF Y	RF LUMINANCE SIGNAL
RF. Y. IN	RF LUMINANCE SIGNAL INPUT
RF. Y. OUT	RF LUMINANCE SIGNAL OUTPUT

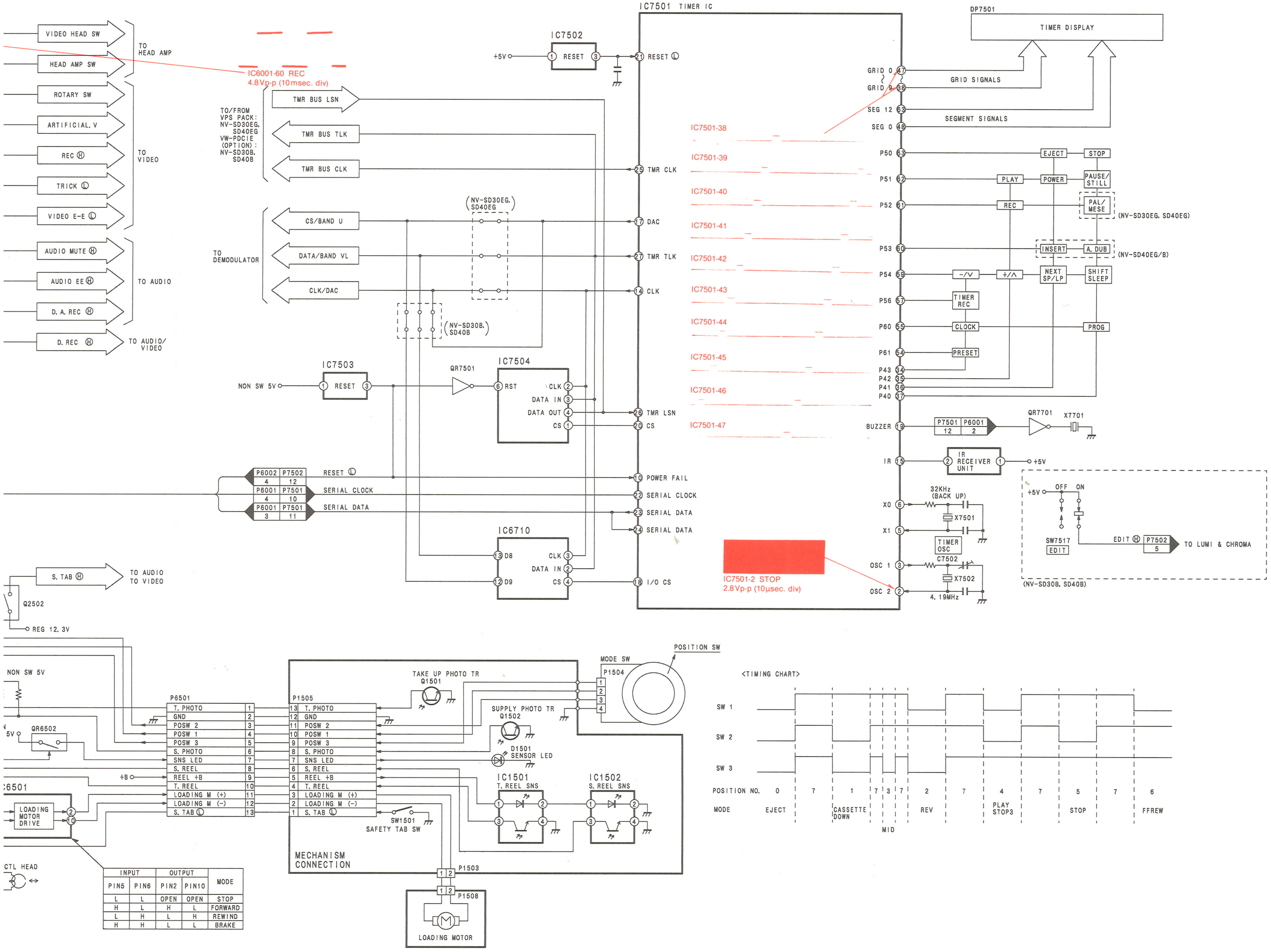
ABBREVIATIONS

ROTAR. SW	ROTARY SW
ROTARY	ROTARY SW
RST	RESET
RST [L]	RESET Ⓛ
Rch/INST	Rch/INSERT
S IN	SERIAL DATA INPUT
S OUT	SERIAL DATA OUTPUT
S-PHOTO	SUPPLY PHOTO TRANSISTOR
S-RL. PLS	SUPPLY REEL PULSE
S. CLK	SERIAL CLOCK
S. CLK/AV	SERIAL CLOCK/AV
S. DATA	SERIAL DATA
S. DATA/A	SERIAL DATA
S. PHOTO	SUPPLY PHOTO TRANSISTOR
S. TAB [L]	SAFETY TAB SW ON Ⓛ
S/P/N	SECAM/PAL/NTSC
SC IN	SERIAL CLOCK INPUT
SC OUT	SERIAL CLOCK OUTPUT
SCK SELECT	SERIAL CLOCK SELECT
SEL OUT [L]	SELECT OUTPUT (L)
SEL OUT [R]	SELECT OUTPUT (R)
SHUTTLE 1	SHUTTLE 1
SIF	SOUND INTERMEDIATE FREQUENCY
SLMUT [H]	INPUT SELECT MUTE Ⓗ
SLNID [+]	SOLENOID (+)
SLNID [−]	SOLENOID (−)
SLW TR. MM	SLOW TRACKING MONO MULTI
SLW TR. REF	SLOW TRACKING REFERENCE VOLTAGE
SNS. GND	SENSOR GND
SOFT [H]	SOFT TAPE PLAY Ⓗ
SOFT [H]/NORMAL	SOFT TAPE PLAY Ⓗ/NORMAL Ⓗ
SOLENOID ON [L]	SOLENOID ON Ⓛ
SP [H]	SP Ⓗ
SP/L/SLP	SP/LP
SSS [L]	SLOW/STILL/STOP
STEREO LED	STEREO LED
STEREO [H]	STEREO Ⓗ
STEREO [L]	STEREO Ⓛ
STOP. PO	STOP POSITION
STOP/5V	STOP POSITION/5V
STOP1/TAPE SEL	STOP1 POSITION/TAPE SELECT
STOP1/PAL:ST	STOP1 POSITION/PAL
STOP2. PO	STOP 2 POSITION
STOP2/S-TAB	STOP 2 POSITION/SAFETY TAB SW
STREO [H]	STEREO Ⓗ
SUB BIAS	SUB BIAS
SUB. SW	SUB SW
SVHS CAS [L]	S-VHS CASSETTE Ⓛ
SW. 5. DET	SW 5V DETECT
SYNC [L]	SYNC Ⓛ
SYSCON 5V	SYSTEM CONTROL 5V
SYSTEM	SYSTEM SW
T-PHOTO	TAKE-UP PHOTO TRANSISTOR
T-RL. PLS	TAKE-UP REEL PULSE
T. BUSCLK	TIMER BUS CLOCK
T. BUSLSN	TIMER BUS LISTEN
T. BUSTLK	TIMER BUS TALK
T. END [L]	TAPE END Ⓛ
T. PHOTO	TAKE-UP PHOTO TRANSISTOR
TAPE END [L]	TAPE END Ⓛ
TAPE END [L]/CAM	TAPE END Ⓛ/CAMERA PAUSE
TEST	TEST MODE
TPZ	TRAPEZOIDAL WAVE CIRCUIT
TRIC [L]	TRIC PLAY Ⓛ
TRICK [L]	TRIC PLAY Ⓛ
TRK. ENV	AUTO TRACKING ENVELOPE DETECT
TU. AUDIO	TUNER AUDIO
TU. GND	TUNER GND
TU. V. IN	TUNER VIDEO SIGNAL INPUT
TU. VIDEO	TUNER VIDEO
TUN NOR IN	TUNER NORMAL INPUT
TUN R	TUNER AUDIO (R)
TUN. AUDIO IN	TUNER AUDIO INPUT
TUNER 12V	TUNER 12V
TUNER L	TUNER AUDIO (L)
TUNER V IN	TUNER VIDEO SIGNAL INPUT
TUNER [L]	TUNER AUDIO (L)
TUNER [N]	TUNER AUDIO (NORMAL)
TUNER [R]	TUNER AUDIO (R)
TUNER. 12	TUNER 12V
TUOFF [H]	TUNER OFF Ⓗ
TV. AUDIO	TV AUDIO
TV/VTR	TV/VTR
TXTON [L]	TEXT ON Ⓛ
U. REG45V	UNREGULATOR 45V
UNREG	UNREGULATOR
UNREG19V	UNREGULATOR 19V
V. REF	REFERENCE VOLTAGE
V. EE [H]	VIDEO EE Ⓗ
V. EE [L]	VIDEO EE Ⓛ
VCO REF	RERERENCE OSCILLATER
VD. IN	VIDEO SIGNAL INPUT
VD. OUT	VIDEO SIGNAL OUTPUT
VIDEO EE [L]	VIDEO EE Ⓛ
VIDEO IN	VIDEO SIGNAL INPUT
VIDEO OUT	VIDEO SIGNAL OUTPUT
VM	MOTOR VOLTAGE
VM DOWN [L]	MOTOR VOLTAGE DOWN Ⓛ
VSS	VERTICAL SYNC SIGNAL
VTR [H]	VTR Ⓗ
VTR. 12V	VTR 12V
X IN	OSCILLATOR INPUT
X OUT	OSCILLATOR OUTPUT

3-2. SYSTEM CONTROL & SERVO BLOCK DIAGRAM

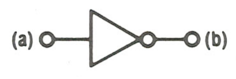

DD CAPSTAN MOTOR
CAPSTAN FG HEAD
MAIN COIL 2
MAIN COIL 1
HALL IC
MAIN COIL 3
H1
H2
H3
GND (FG)
M2
FG2
M1
VH+
H3−
FG1
H3+
H2−
VH−
H2+
H1−
12V
H1+
M3
IC2502-1, 3, 23 REC/PLAY
2.2Vp-p (50msec. div)
P2501
IC2502 CAPSTAN MOTOR DRIVE IC
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
TORQUE CONTROL
TORQUE DIRECTION
POSITION SIGNAL PROCESS
N. SW 5V
REFERENCE
TP2026
UNLEG 14V
REFERENCE
IC2503
CAPSTAN FG AMP
TP2015
TP GND2
TPSERV
SERVICE
TEST
+5V
(NV-SD40EG/B)
P3001
FROM HEAD AMP
TO POWER
POWER OFF Ⓛ
QR1001
NON SW 5V
Q2003
Q2004
TO LUMI & CHROMA
LP Ⓗ
N SW 5V
(NV-SD40EG/B)
QR2001
(LP Ⓛ:ON)
IC6001-41 PLAY
2.0Vp-p (5msec. div)
TO HEAD AMP
LP Ⓗ
N SW 5V
Q2001
(PAL Ⓗ: ON)
TO AUDIO
LP Ⓗ
TP2002
(NV-SD30EG/B)
QR2006
(SP Ⓛ:ON)
QR2002
N SW 5V
NTSC Ⓛ
TO AUDIO/ LUMI & CHROMA
Q2002
(NV-SD40EG/B)
VR2001
PG SHIFTER
QR2013
(NTSC Ⓛ:ON)
QR2010
(REV Ⓗ:ON)
VR2018
LP REV
QR2009
(FWD Ⓛ:ON)
VR2006
LP FWD
QR2008
(REV Ⓗ:ON)
VR2019
SP REV
QR2007
(CUE Ⓛ:ON)
VR2011
SP FWD
IC2501-1, 2, 17 REC
12Vp-p (2msec. div)
DD CYLINDER MOTOR
MAIN COIL 3
MAIN COIL 2
MAIN COIL 1
HALL IC
M2
VH+
HE+
M3
GND
VM
HE−
M1
IC2501 CYLINDER DRIVE IC
PG/FG
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
TORQUE CONTROL
SCHMIT
IC6001-43 REC
5.0Vp-p (10msec. div)
FROM HEAD AMP
TRACKING ENV.
FROM LUMINANCE & CHROMINANCE
VSS
N SW 5V
22K
22K
IC6502
IC6001 SYSTEM CONTROL/SERVO IC
NORMAL Ⓗ
SERVICE Ⓜ
TEST Ⓛ
(AUTO TRACKING OFF)
ENVE. SELECT
CAP ERROR
CAP REVERSE Ⓗ
STOP Ⓜ
FORWARD Ⓛ
POWER OFF Ⓗ
FG2
FG1
LP Ⓗ/SP Ⓛ
LP Ⓛ
NTSC Ⓛ
PB. CTL
CTL (−) CLUMP
CTL (+) CLUMP
FF. REW Ⓛ
REV Ⓗ
SLOW TR. MM
CYL PG MM
CYL PFG
CYL ET.
AUTO TRACKING ENV.
VSS
5V (D)
5V (DAC)
5V (A)
SLOW TRACKING REF (REG 2. 5V)
VIDEO HEAD SW
HEAD AMP SW
ROTARY SW
ARTIFICIAL. V
REC Ⓗ
TRICK PLAY Ⓛ
VIDEO E-E Ⓛ
A. MUTE Ⓗ
A. EE Ⓗ
D. A. REC Ⓗ
D. REC Ⓗ
TP2009
X6001
RESET Ⓛ
SERIAL CLK
SERIAL DATA
REC SELECT
SERIAL CLK SELECT
QR6005
POSITION SW 1
POSITION SW 2
POSITION SW 3
TAKE UP PHOTO
SUPPLY PHOTO
TAPE SENSOR LED
S. REEL PULSE
T. REEL PULSE
LOADING Ⓗ
UN LOADING Ⓗ
S. TAB Ⓛ
CTL HEAD (−)
CTL HEAD (+)
P4003
CTL HEAD
VIDEO HEAD SW
HEAD AMP SW
ROTARY SW
ARTIFICIAL. V
REC Ⓗ
TRICK Ⓛ
VIDEO E-E Ⓛ
AUDIO MUTE Ⓗ
AUDIO EE Ⓗ
D. A. REC Ⓗ
D. REC Ⓗ
TO HEAD AMP
TO VIDEO
TO AUDIO
TO AUDIO/ VIDEO
S. TAB Ⓗ
TO AUDIO
TO VIDEO
Q2502
REG 12. 3V
NON SW 5V
NON SW 5V
QR6502
IC6501
LOADING MOTOR DRIVE
P6501
T. PHOTO
GND
POSW 2
POSW 1
POSW 3
S. PHOTO
SNS LED
S. REEL
REEL +B
T. REEL
LOADING M (+)
LOADING M (−)
S. TAB Ⓛ
+B
P6002
P6001
TO/FROM VPS PACK: NV-SD30EG, SD40EG VW-PDC1E (OPTION): NV-SD30B, SD40B
TO DEMODULATOR
IC6001-60
4.8Vp-p (10
IC6001-10 REC
5.0Vp-p (10msec. div)
IC6001-27, 28 REC
0.6Vp-p (10msec. div)
IC6001-63, 64 REC
5.0Vp-p (5msec. div)
IC6001-5 REC
5.0Vp-p (2msec. div)
IC6001-19 REC
7.0Vp-p (0.2msec. div)
IC6001-34, 35 REC
2.5Vp-p (10msec. div)
IC6001-26 REC
2.1Vp-p (5msec. div)

INPUT		OUTPUT		MODE
PIN5	PIN6	PIN2	PIN10	
L	L	OPEN	OPEN	STOP
H	L	H	L	FORWARD
L	H	L	H	REWIND
H	H	L	L	BRAKE


IC7501 TIMER IC
IC7502 RESET
IC7503 RESET
IC7504
IC6710
DP7501 TIMER DISPLAY
GRID SIGNALS
SEGMENT SIGNALS
VIDEO HEAD SW
HEAD AMP SW
ROTARY SW
ARTIFICIAL. V
REC Ⓗ
TRICK Ⓛ
VIDEO E-E Ⓛ
AUDIO MUTE Ⓗ
AUDIO EE Ⓗ
D. A. REC Ⓗ
D. REC Ⓗ
TO HEAD AMP
TO VIDEO
TO AUDIO
TO AUDIO/VIDEO
TO/FROM VPS PACK: NV-SD30EG, SD40EG VW-PDC1E (OPTION): NV-SD30B, SD40B
TMR BUS LSN
TMR BUS TLK
TMR BUS CLK
TO DEMODULATOR
CS/BAND U
DATA/BAND VL
CLK/DAC
(NV-SD30EG, SD40EG)
(NV-SD30B, SD40B)
NON SW 5V
QR7501
RESET Ⓛ
TMR CLK
DAC
TMR TLK
CLK
TMR LSN
CS
POWER FAIL
SERIAL CLOCK
SERIAL DATA
I/O CS
GRID 0
GRID 9
SEG 12
SEG 0
P50 P51 P52 P53 P54 P56 P60 P61 P43 P42 P41 P40
EJECT STOP PLAY POWER PAUSE/STILL REC PAL/MESE INSERT A. DUB NEXT SP/LP SHIFT SLEEP TIMER REC CLOCK PROG PRESET
(NV-SD30EG, SD40EG)
(NV-SD40EG/B)
BUZZER
QR7701 X7701
IR RECEIVER UNIT
32KHz (BACK UP)
X7501
TIMER OSC
C7502
X7502
4. 19MHz
XO X1 OSC 1 OSC 2
SW7517 EDIT
EDIT Ⓗ P7502
TO LUMI & CHROMA
(NV-SD30B, SD40B)
IC6001-60 REC
4.8Vp-p (10msec. div)
IC7501-38
IC7501-39
IC7501-40
IC7501-41
IC7501-42
IC7501-43
IC7501-44
IC7501-45
IC7501-46
IC7501-47
IC7501-2 STOP
2.8Vp-p (10μsec. div)
S. TAB Ⓗ
TO AUDIO TO VIDEO
Q2502
REG 12. 3V
NON SW 5V
QR6502
P6501
T. PHOTO GND POSW 2 POSW 1 POSW 3 S. PHOTO SNS LED S. REEL REEL +B T. REEL LOADING M (+) LOADING M (−) S. TAB Ⓛ
LOADING MOTOR DRIVE
CTL HEAD
P1505
TAKE UP PHOTO TR Q1501
SUPPLY PHOTO TR Q1502
D1501 SENSOR LED
IC1501 T. REEL SNS
IC1502 S. REEL SNS
SW1501 SAFETY TAB SW
MECHANISM CONNECTION
MODE SW
P1504
POSITION SW
P1503
P1508
LOADING MOTOR
INPUT OUTPUT MODE
PIN5 PIN6 PIN2 PIN10
L L OPEN OPEN STOP
H L H L FORWARD
L H L H REWIND
H H L L BRAKE
<TIMING CHART>
SW 1
SW 2
SW 3
POSITION NO. 0 7 1 7 3 7 2 7 4 7 5 7 6
MODE EJECT CASSETTE DOWN MID REV PLAY STOP3 STOP FFREW

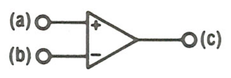
SYMBOL — TRUTH VALUE TABLE

INVERTER



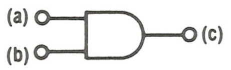
IN	(a)	H	L
OUT	(b)	L	H

COMPARTOR



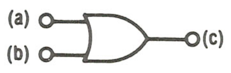
IN	(a) (b)	(a)>(b)	(a)<(b)
OUT	(c)	H	L

AND CIRCUIT



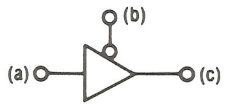
IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	L	L	H

OR CIRCUIT



IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	H	H	H

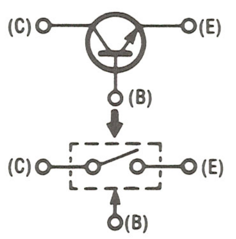
THREE STATES BUFFER



IN	(a)	H	L	H or L
	(b)	L	L	H
OUT	(c)	H	L	※

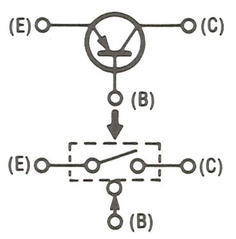
※ High Impedance

TR. SW (NPN TYPE)



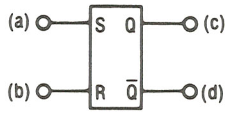
BASE	H	L
TR. SW	ON	OFF

TR. SW (PNP TYPE)



BASE	H	L
TR. SW	OFF	ON

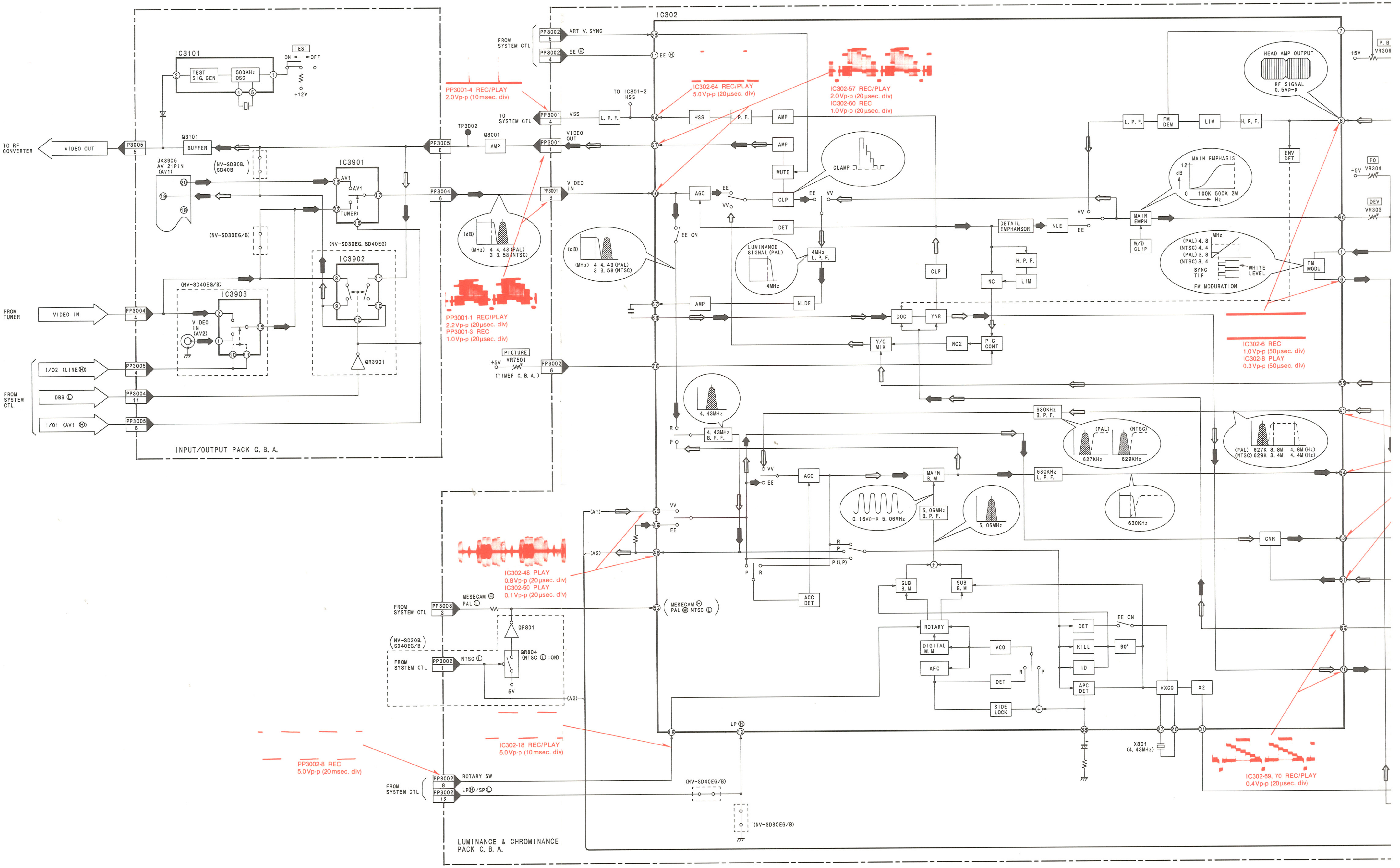
R-S TYPE FLIP-FLOP



IN	(a)	L	L	⎍
	(b)	L	⎍	L
OUT	(c)	※	L	H
	(d)	◆	H	L

※ Initial condition is maintained.
◆ Initial condition is reversed.

3-3. LUMINANCE & CHROMINANCE BLOCK DIAGRAM


IC3101
TEST SIG. GEN
500KHz OSC
TEST
ON OFF
+12V
TO RF CONVERTER
VIDEO OUT
PP3005 5
Q3101
BUFFER
JK3906 AV 21PIN (AV1)
(NV-SD30B, SD40B)
IC3901
AV1
TUNER
(NV-SD30EG/B)
(NV-SD30EG, SD40EG)
IC3902
(NV-SD40EG/B)
IC3903
VIDEO IN (AV2)
QR3901
FROM TUNER
VIDEO IN
PP3004 4
I/02 (LINE Ⓗ)
PP3005 4
FROM SYSTEM CTL
DBS Ⓛ
PP3004 11
I/01 (AV1 Ⓗ)
PP3005 6
INPUT/OUTPUT PACK C. B. A.
PP3005 8
TP3002
Q3001
AMP
PP3004 6
FROM SYSTEM CTL
PP3002 5
ART V, SYNC
PP3002 4
EE Ⓗ
TO SYSTEM CTL
PP3001 4
VSS
VIDEO OUT
PP3001 1
VIDEO IN
PP3001 3
PICTURE
+5V VR7501
PP3002 6
(TIMER C. B. A.)
(dB) (MHz) 4. 43 (PAL) 3. 58 (NTSC)
IC302
TO IC801-2 HSS
L. P. F.
HSS
AMP
MUTE
CLAMP
CLP
AGC
DET
EE ON
LUMINANCE SIGNAL (PAL)
4MHz
4MHz L. P. F.
NLDE
DOC
YNR
CLP
Y/C MIX
NC2
PIC CONT
DETAIL EMPHANSOR
NLE
NC
LIM
H. P. F.
MAIN EMPH
W/D CLIP
MAIN EMPHASIS
12 dB
0 100K 500K 2M Hz
L. P. F.
FM DEM
LIM
H. P. F.
ENV DET
HEAD AMP OUTPUT
RF SIGNAL 0. 5Vp-p
FM MODU
(PAL) 4. 8 (NTSC) 4. 4 (PAL) 3. 8 (NTSC) 3. 4 MHz
SYNC TIP
WHITE LEVEL
FM MODURATION
+5V VR306 P. B
+5V VR304 FO
VR303 DEV
4. 43MHz
4. 43MHz B. P. F.
630KHz B. P. F.
(PAL) (NTSC) 627KHz 629KHz
(PAL) 627K 3. 8M 4. 8M (Hz) (NTSC) 629K 3. 4M 4. 4M (Hz)
ACC
MAIN B. M
630KHz L. P. F.
0. 16Vp-p 5. 06MHz
5. 06MHz B. P. F.
5. 06MHz
630KHz
CNR
SUB B. M
ACC DET
ROTARY
DIGITAL M. M
VCO
AFC
DET
SIDE LOCK
DET
KILL
ID
APC DET
90°
EE ON
VXCO
X2
X801 (4. 43MHz)
P (LP)
LP Ⓗ
(A1)
(A2)
(A3)
FROM SYSTEM CTL
PP3003 3
MESECAM Ⓗ PAL Ⓛ
MESECAM Ⓗ PAL Ⓜ NTSC Ⓛ
(NV-SD30B, SD40EG/B)
QR801
QR804 (NTSC Ⓛ : ON)
PP3002 1
NTSC Ⓛ
5V
FROM SYSTEM CTL
PP3002 8
ROTARY SW
PP3002 12
LPⒽ/SPⓁ
(NV-SD40EG/B)
(NV-SD30EG/B)
LUMINANCE & CHROMINANCE PACK C. B. A.

PP3001-4 REC/PLAY
2.0Vp-p (10msec. div)

IC302-64 REC/PLAY
5.0Vp-p (20μsec. div)

IC302-57 REC/PLAY
2.0Vp-p (20μsec. div)
IC302-60 REC
1.0Vp-p (20μsec. div)

PP3001-1 REC/PLAY
2.2Vp-p (20μsec. div)
PP3001-3 REC
1.0Vp-p (20μsec. div)

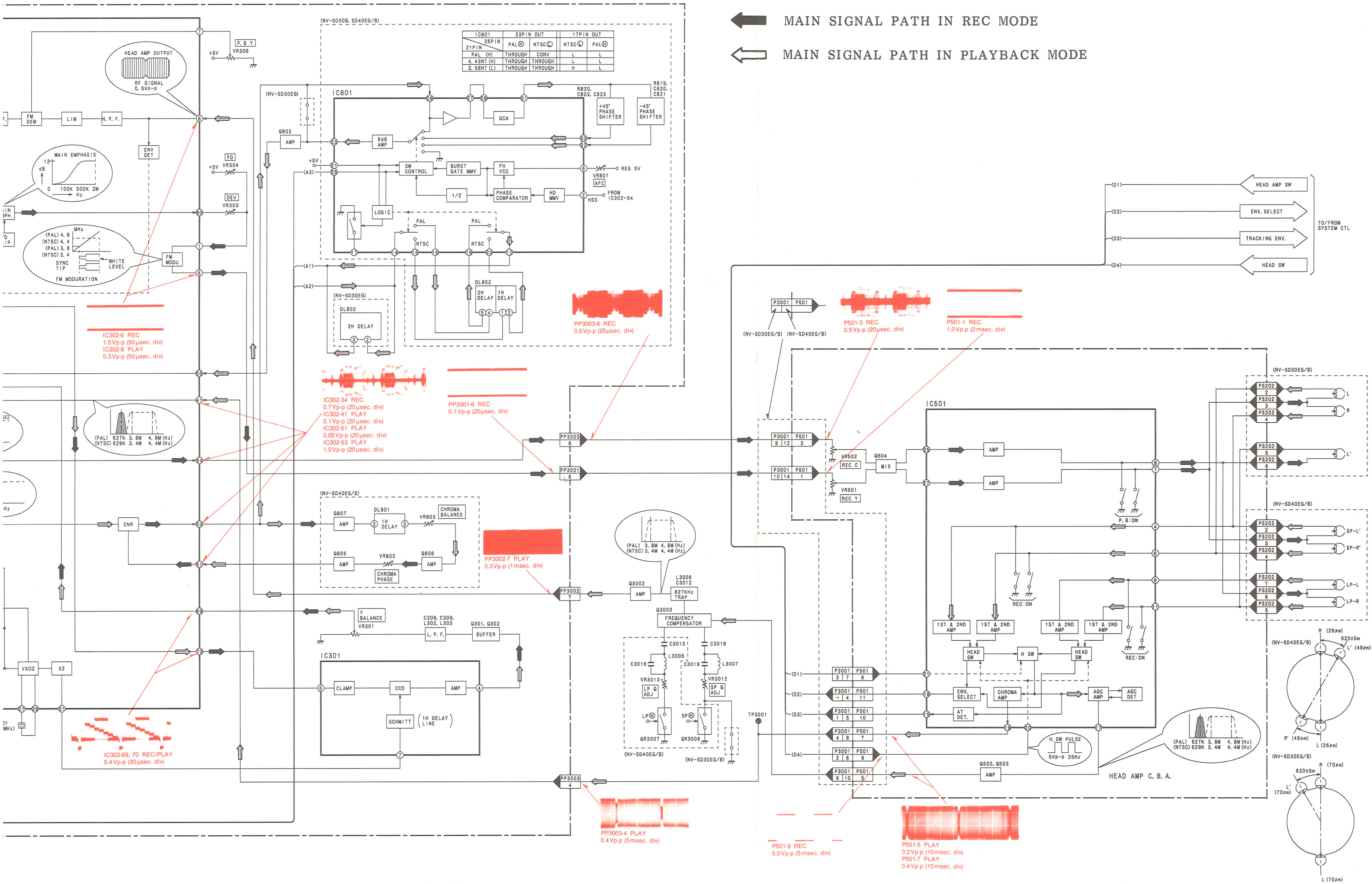
IC302-6 REC
1.0Vp-p (50μsec. div)
IC302-8 PLAY
0.3Vp-p (50μsec. div)

IC302-48 PLAY
0.8Vp-p (20μsec. div)
IC302-50 PLAY
0.1Vp-p (20μsec. div)

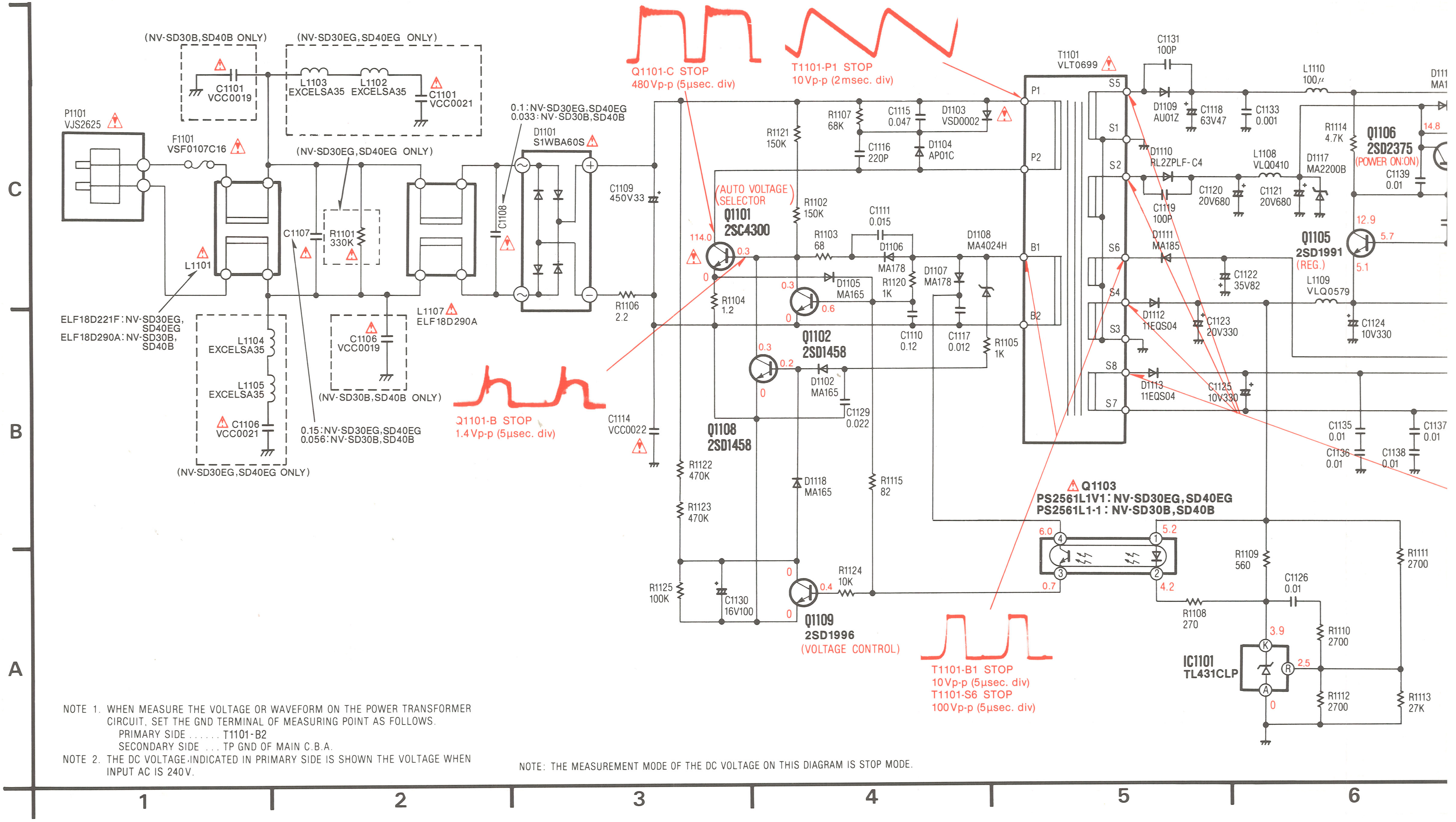
IC302-18 REC/PLAY
5.0Vp-p (10msec. div)

PP3002-8 REC
5.0Vp-p (20msec. div)

IC302-69, 70 REC/PLAY
0.4Vp-p (20μsec. div)

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
(NV-SD30B, SD40EG/B)
IC801 / 25PIN / 21PIN / 23PIN OUT / 17PIN OUT
PAL (H) / THROUGH / CONV / L / L
4.43NT (H) / THROUGH / THROUGH / L / L
3.58NT (L) / THROUGH / THROUGH / H / L
HEAD AMP OUTPUT
RF SIGNAL 0.5Vp-p
P.B Y
VR306
+5V
FM DEM
LIM
H.P.F.
ENV DET
MAIN EMPHASIS
12 dB
0 100K 500K 2M Hz
FO
VR304
DEV
VR303
(PAL) 4.8 (NTSC) 4.4 (PAL) 3.8 (NTSC) 3.4 MHz
SYNC TIP
WHITE LEVEL
FM MODURATION
FM MODU
IC302-6 REC 1.0Vp-p (50μsec. div)
IC302-8 PLAY 0.3Vp-p (50μsec. div)
(PAL) 627K 3.8M 4.8M (Hz)
(NTSC) 629K 3.4M 4.4M (Hz)
CNR
VXCO
X2
IC302-69, 70 REC/PLAY 0.4Vp-p (20μsec. div)
(NV-SD30EG)
Q802
AMP
IC801
6dB AMP
GCA
+45° PHASE SHIFTER
-45° PHASE SHIFTER
R820, C822, C823
R819, C820, C821
SW CONTROL
BURST GATE MMV
FH VCO
1/2
PHASE COMPARATOR
HD MMV
VR801 AFC
REG 5V
HSS
FROM IC302-54
LOGIC
PAL
NTSC
(A1)
(A2)
(A3)
DL802
2H DELAY
1H DELAY
(NV-SD30EG)
PP3003-6 REC 0.5Vp-p (20μsec. div)
IC302-34 REC 0.7Vp-p (20μsec. div)
IC302-41 PLAY 0.1Vp-p (20μsec. div)
IC302-51 PLAY 0.05Vp-p (20μsec. div)
IC302-53 PLAY 1.0Vp-p (20μsec. div)
PP3001-6 REC 0.1Vp-p (20μsec. div)
(NV-SD40EG/B)
Q807
AMP
DL801
1H DELAY
VR803
CHROMA BALANCE
Q805
VR802
Q806
CHROMA PHASE
PP3002-7 PLAY 0.3Vp-p (1msec. div)
PP3003 6
PP3001 6
PP3002 7
PP3003 4
(PAL) 3.8M 4.8M (Hz)
(NTSC) 3.4M 4.4M (Hz)
Q3002
AMP
L3006 C3012
627KHz TRAP
Q3003
FREQUENCY COMPENSATOR
Y BALANCE
VR301
C308, C309, L302, L303
L.P.F.
Q301, Q302
BUFFER
IC301
CLAMP
CCD
AMP
SCHMITT
(1H DELAY LINE)
C3015
C3018
C3016
L3006
C3019
L3007
VR3013
LP Q ADJ
VR3012
SP Q ADJ
LP
SP
QR3007
QR3008
(NV-SD40EG/B)
(NV-SD30EG/B)
TP3001
PP3003-4 PLAY 0.4Vp-p (5msec. div)
(D1) HEAD AMP SW
(D2) ENV. SELECT
(D3) TRACKING ENV.
(D4) HEAD SW
TO/FROM SYSTEM CTL
P3001 P501
(NV-SD30EG/B)
(NV-SD40EG/B)
P501-3 REC 0.5Vp-p (20μsec. div)
P501-1 REC 1.0Vp-p (2msec. div)
IC501
VR502 REC C
Q504
MIX
VR501 REC Y
AMP
P.B:ON
REC:ON
1ST & 2ND AMP
HEAD SW
H SW
ENV. SELECT
CHROMA AMP
AGC AMP
AGC DET
AT DET.
H. SW PULSE 5Vp-p 25Hz
Q502, Q503
AMP
HEAD AMP C.B.A.
P501-9 REC 5.0Vp-p (5msec. div)
P501-5 PLAY 0.2Vp-p (10msec. div)
P501-7 PLAY 0.4Vp-p (10msec. div)
PS202
L
R
L'
SP-L'
SP-R'
LP-L
LP-R
R (26μm)
620±5m
L' (49μm)
R' (49μm)
L (26μm)
R (70μm)
L' (70μm)
L (70μm)

SECTION 4
SCHEMATIC DIAGRAMS
4-1. POWER SCHEMATIC DIAGRAM

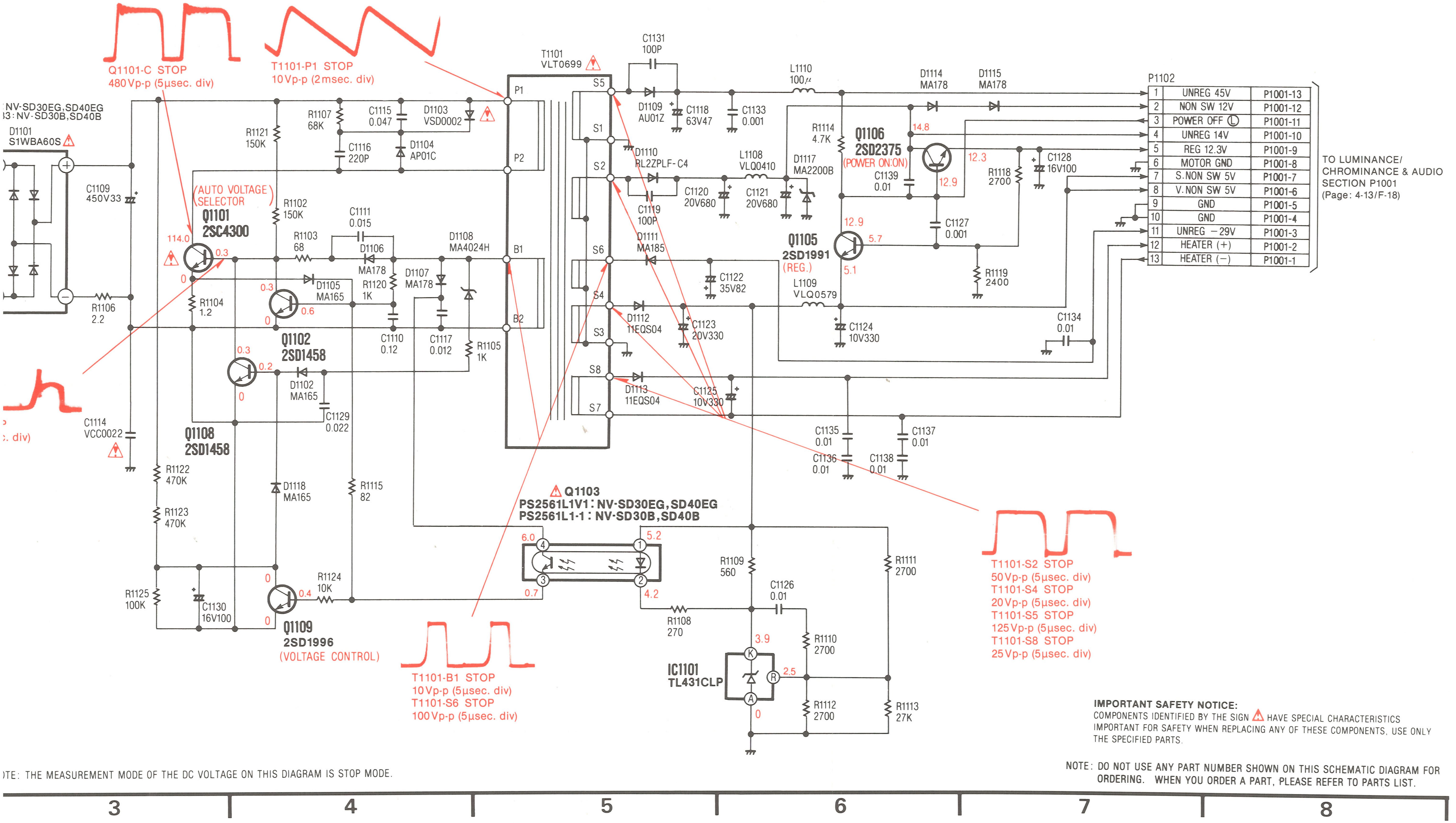


C
B
A
1
2
3
4
5
6
(NV-SD30B,SD40B ONLY)
C1101
VCC0019
(NV-SD30EG,SD40EG ONLY)
L1103
EXCELSA35
L1102
EXCELSA35
C1101
VCC0021
P1101
VJS2625
F1101
VSF0107C16
(NV-SD30EG,SD40EG ONLY)
C1107
R1101
330K
L1101
ELF18D221F:NV-SD30EG,SD40EG
ELF18D290A:NV-SD30B,SD40B
L1104
EXCELSA35
L1105
EXCELSA35
C1106
VCC0021
(NV-SD30EG,SD40EG ONLY)
C1106
VCC0019
(NV-SD30B,SD40B ONLY)
0.15:NV-SD30EG,SD40EG
0.056:NV-SD30B,SD40B
0.1:NV-SD30EG,SD40EG
0.033:NV-SD30B,SD40B
D1101
S1WBA60S
C1108
L1107
ELF18D290A
C1109
450V33
R1106
2.2
C1114
VCC0022
Q1101-C STOP
480Vp-p (5µsec. div)
T1101-P1 STOP
10Vp-p (2msec. div)
Q1101-B STOP
1.4Vp-p (5µsec. div)
T1101-B1 STOP
10Vp-p (5µsec. div)
T1101-S6 STOP
100Vp-p (5µsec. div)
R1121
150K
R1107
68K
C1115
0.047
D1103
VSD0002
C1116
220P
D1104
AP01C
(AUTO VOLTAGE SELECTOR)
Q1101
2SC4300
114.0
0.3
0
R1102
150K
R1103
68
C1111
0.015
D1106
MA178
D1108
MA4024H
D1105
MA165
R1120
1K
D1107
MA178
R1104
1.2
0.3
0.6
0
Q1102
2SD1458
C1110
0.12
C1117
0.012
R1105
1K
0.3
0.2
0
D1102
MA165
C1129
0.022
Q1108
2SD1458
R1122
470K
R1123
470K
D1118
MA165
R1115
82
R1125
100K
C1130
16V100
R1124
10K
0
0.4
0
Q1109
2SD1996
(VOLTAGE CONTROL)
T1101
VLT0699
P1
P2
B1
B2
S5
S1
S2
S6
S4
S3
S8
S7
C1131
100P
D1109
AU01Z
C1118
63V47
C1133
0.001
L1110
100µ
D1110
RL2ZPLF-C4
C1119
100P
C1120
20V680
L1108
VLQ0410
C1121
20V680
D1117
MA2200B
R1114
4.7K
Q1106
2SD2375
(POWER ON:ON)
C1139
0.01
14.8
D1111
MA185
C1122
35V82
Q1105
2SD1991
(REG.)
12.9
5.7
5.1
L1109
VLQ0579
D1112
11EQS04
C1123
20V330
C1124
10V330
D1113
11EQS04
C1125
10V330
C1135
0.01
C1136
0.01
C1137
0.01
C1138
0.01
Q1103
PS2561L1V1: NV-SD30EG,SD40EG
PS2561L1-1: NV-SD30B,SD40B
6.0
5.2
0.7
4.2
R1109
560
C1126
0.01
R1111
2700
R1108
270
R1110
2700
3.9
IC1101
TL431CLP
2.5
0
R1112
2700
R1113
27K
D111
MA1

NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.
PRIMARY SIDE T1101-B2
SECONDARY SIDE ... TP GND OF MAIN C.B.A.

NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IS 240V.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.


Q1101-C STOP
480Vp-p (5µsec. div)
T1101-P1 STOP
10Vp-p (2msec. div)
T1101
VLT0699
C1131
100P
L1110
100µ
D1114
MA178
D1115
MA178
P1102
NV-SD30EG,SD40EG
3: NV-SD30B,SD40B
D1101
S1WBA60S
C1109
450V33
R1106
2.2
R1121
150K
R1107
68K
C1115
0.047
D1103
VSD0002
C1116
220P
D1104
AP01C
P1
P2
B1
B2
S5
S1
S2
S6
S4
S3
S8
S7
D1109
AU01Z
C1118
63V47
C1133
0.001
D1110
RL2ZPLF-C4
L1108
VLQ0410
D1117
MA2200B
R1114
4.7K
Q1106
2SD2375
(POWER ON:ON)
C1139
0.01
14.8
12.3
12.9
R1118
2700
C1128
16V100
C1120
20V680
C1121
20V680
C1119
100P
D1111
MA185
C1122
35V82
Q1105
2SD1991
(REG.)
12.9
5.7
5.1
C1127
0.001
R1119
2400
L1109
VLQ0579
D1112
11EQS04
C1123
20V330
C1124
10V330
C1134
0.01
D1113
11EQS04
C1125
10V330
C1135
0.01
C1136
0.01
C1137
0.01
C1138
0.01
(AUTO VOLTAGE SELECTOR)
Q1101
2SC4300
114.0
0.3
0
R1102
150K
R1103
68
C1111
0.015
D1106
MA178
D1108
MA4024H
R1120
1K
D1107
MA178
D1105
MA165
0.3
0.6
0
R1104
1.2
Q1102
2SD1458
C1110
0.12
C1117
0.012
R1105
1K
0.3
0.2
0
D1102
MA165
C1129
0.022
C1114
VCC0022
Q1108
2SD1458
R1122
470K
R1123
470K
D1118
MA165
R1115
82
Q1103
PS2561L1V1 : NV-SD30EG,SD40EG
PS2561L1-1 : NV-SD30B,SD40B
6.0
5.2
0.7
4.2
R1125
100K
C1130
16V100
0
0.4
0
R1124
10K
Q1109
2SD1996
(VOLTAGE CONTROL)
R1109
560
R1111
2700
C1126
0.01
R1108
270
R1110
2700
3.9
2.5
0
IC1101
TL431CLP
R1112
2700
R1113
27K
T1101-B1 STOP
10Vp-p (5µsec. div)
T1101-S6 STOP
100Vp-p (5µsec. div)
T1101-S2 STOP
50Vp-p (5µsec. div)
T1101-S4 STOP
20Vp-p (5µsec. div)
T1101-S5 STOP
125Vp-p (5µsec. div)
T1101-S8 STOP
25Vp-p (5µsec. div)
c. div)
1 UNREG 45V P1001-13
2 NON SW 12V P1001-12
3 POWER OFF Ⓛ P1001-11
4 UNREG 14V P1001-10
5 REG 12.3V P1001-9
6 MOTOR GND P1001-8
7 S.NON SW 5V P1001-7
8 V.NON SW 5V P1001-6
9 GND P1001-5
10 GND P1001-4
11 UNREG −29V P1001-3
12 HEATER (+) P1001-2
13 HEATER (−) P1001-1
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION P1001
(Page: 4-13/F-18)
3
4
5
6
7
8

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SPECIFIED PARTS.

TE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

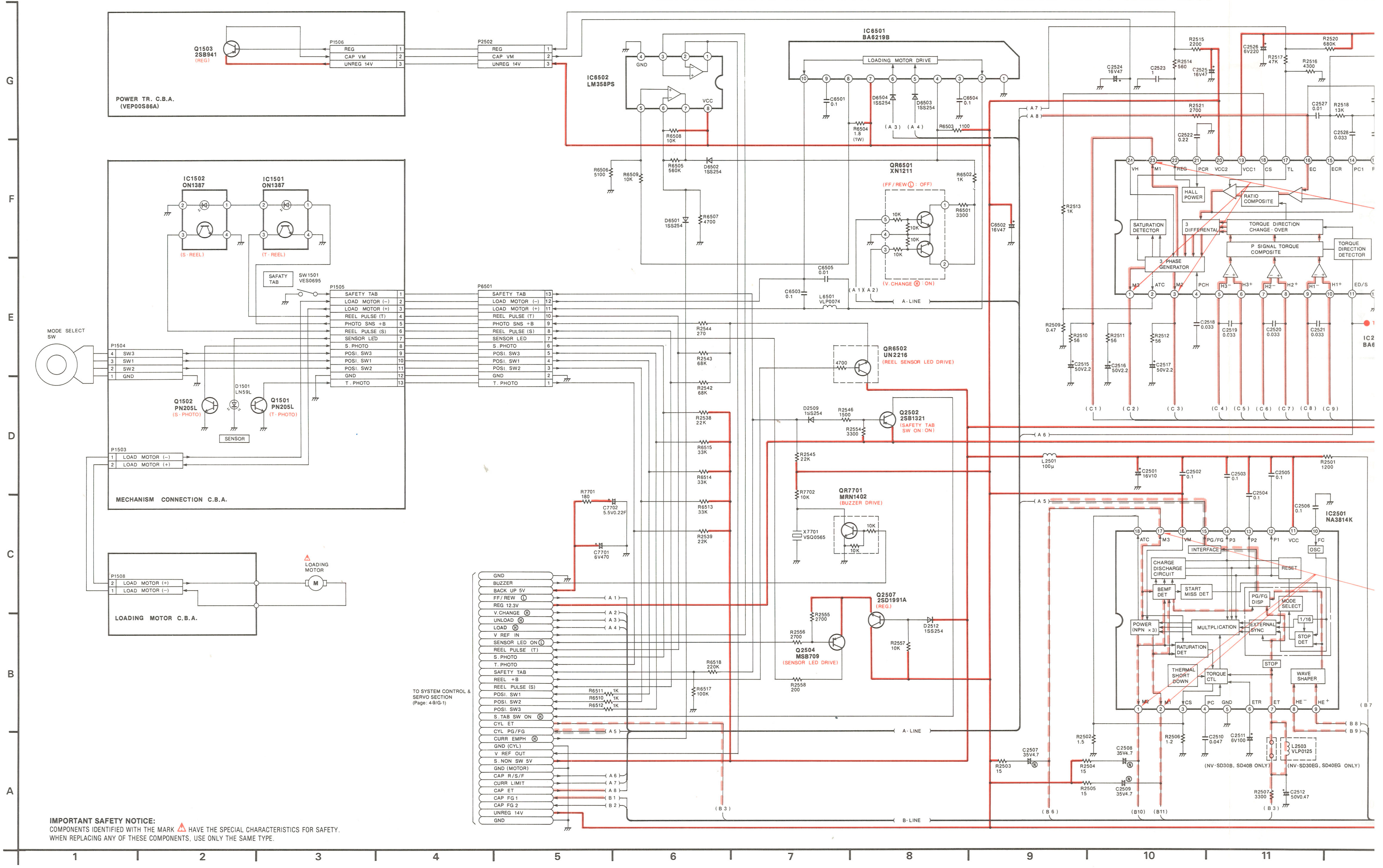
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-2. SUB SERVO SECTION IN MAIN SCHEMATIC DIAGRAM

CAPSTAN SERVO SPEED LOOP

CYLINDER SERVO SPEED LOOP

CYLIND


Q1503
2SB941
(REG)
P1506
REG
CAP VM
UNREG 14V
POWER TR. C.B.A.
(VEP00S86A)
P2502
REG
CAP VM
UNREG 14V
IC6502
LM358PS
GND
VCC
IC6501
BA6219B
LOADING MOTOR DRIVE
C6501 0.1
D6504 1SS254
D6503 1SS254
C6504 0.1
R6504 1.8 (1W)
R6503 1100
R6508 10K
R6505 560K
D6502 1SS254
R6506 5100
R6509 10K
D6501 1SS254
R6507 4700
QR6501
XN1211
(FF/REW Ⓛ : OFF)
R6502 1K
R6501 3300
(V. CHANGE Ⓗ : ON)
C6505 0.01
C6503 0.1
L6501 VLP0074
C6502 16V47
IC1502
ON1387
IC1501
ON1387
(S·REEL)
(T·REEL)
SAFETY TAB
SW1501
VES0695
P1505
SAFETY TAB
LOAD MOTOR (−)
LOAD MOTOR (+)
REEL PULSE (T)
PHOTO SNS +B
REEL PULSE (S)
SENSOR LED
S. PHOTO
POSI. SW3
POSI. SW1
POSI. SW2
GND
T. PHOTO
P6501
MODE SELECT SW
P1504
SW3
SW1
SW2
GND
D1501
LN59L
Q1502
PN205L
(S·PHOTO)
Q1501
PN205L
(T·PHOTO)
SENSOR
P1503
LOAD MOTOR (−)
LOAD MOTOR (+)
MECHANISM CONNECTION C.B.A.
P1508
LOAD MOTOR (+)
LOAD MOTOR (−)
LOADING MOTOR C.B.A.
LOADING MOTOR
M
QR6502
UN2216
(REEL SENSOR LED DRIVE)
R2544 270
R2543 68K
R2542 68K
R2538 22K
R6515 33K
R6514 33K
R6513 33K
R2539 22K
D2509 1SS254
R2546 1500
R2554 3300
Q2502
2SB1321
(SAFETY TAB SW ON·ON)
R2545 22K
R7702 10K
QR7701
MRN1402
(BUZZER DRIVE)
X7701
VSQ0565
R7701 180
C7702 5.5V0.22F
C7701 6V470
Q2507
2SD1991A
(REG)
R2555 2700
R2556 2700
Q2504
MSB709
(SENSOR LED DRIVE)
R2557 10K
D2512 1SS254
R2558 200
R6518 220K
R6517 100K
R6511 1K
R6510 1K
R6512 1K
GND
BUZZER
BACK UP 5V
FF/REW Ⓛ
REG 12.3V
V. CHANGE Ⓗ
UNLOAD Ⓗ
LOAD Ⓗ
V REF IN
SENSOR LED ON Ⓛ
REEL PULSE (T)
S. PHOTO
T. PHOTO
SAFETY TAB
REEL +B
REEL PULSE (S)
POSI. SW1
POSI. SW2
POSI. SW3
S. TAB SW ON Ⓗ
CYL ET
CYL PG/FG
CURR EMPH Ⓗ
GND (CYL)
V REF OUT
S. NON SW 5V
GND (MOTOR)
CAP R/S/F
CURR LIMIT
CAP ET
CAP FG1
CAP FG2
UNREG 14V
GND
TO SYSTEM CONTROL & SERVO SECTION
(Page: 4-9/G-1)
A-LINE
B-LINE
R2515 2200
R2514 560
C2525 16V47
C2526 6V220
R2517 47K
R2520 680K
R2516 4300
C2524 16V47
C2523 1
R2521 2700
C2522 0.22
C2527 0.01
R2518 13K
C2528 0.033
VH
M1
REG
PCR
VCC2
VCC1
CS
TL
EC
ECR
PC1
HALL POWER
RATIO COMPOSITE
SATURATION DETECTOR
3 DIFFERENTIAL
TORQUE DIRECTION CHANGE-OVER
P SIGNAL TORQUE COMPOSITE
TORQUE DIRECTION DETECTOR
3 PHASE GENERATOR
M3
ATC
M2
PCH
H3−
H3+
H2−
H2+
H1−
H1+
ED/S
R2513 1K
C6502 16V47
R2509 0.47
R2510 56
R2511 56
R2512 56
C2515 50V2.2
C2516 50V2.2
C2517 50V2.2
C2518 0.033
C2519 0.033
C2520 0.033
C2521 0.033
IC2
BA6
L2501 100μ
C2501 16V10
C2502 0.1
C2503 0.1
C2504 0.1
C2505 0.1
R2501 1200
C2506 0.1
IC2501
NA3814K
ATC
M3
VM
PG/FG
P3
P2
P1
VCC
FC
OSC
INTERFACE
CHARGE DISCHARGE CIRCUIT
RESET
BEMF DET
START MISS DET
PG/FG DISP
MODE SELECT
POWER (NPN ×3)
MULTIPLICATION
EXTERNAL SYNC
1/16
STOP DET
RATURATION DET
STOP
THERMAL SHORT DOWN
TORQUE CTL
WAVE SHAPER
M2
M1
CS
PC
GND
ETR
ET
HE−
HE+
C2507 35V4.7
R2503 15
R2504 15
R2505 15
C2508 35V4.7
C2509 35V4.7
R2502 1.5
R2506 1.2
C2510 0.047
C2511 6V100
L2503 VLP0125
(NV-SD30B, SD40B ONLY)
(NV-SD30EG, SD40EG ONLY)
R2507 3300
C2512 50V0.47
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

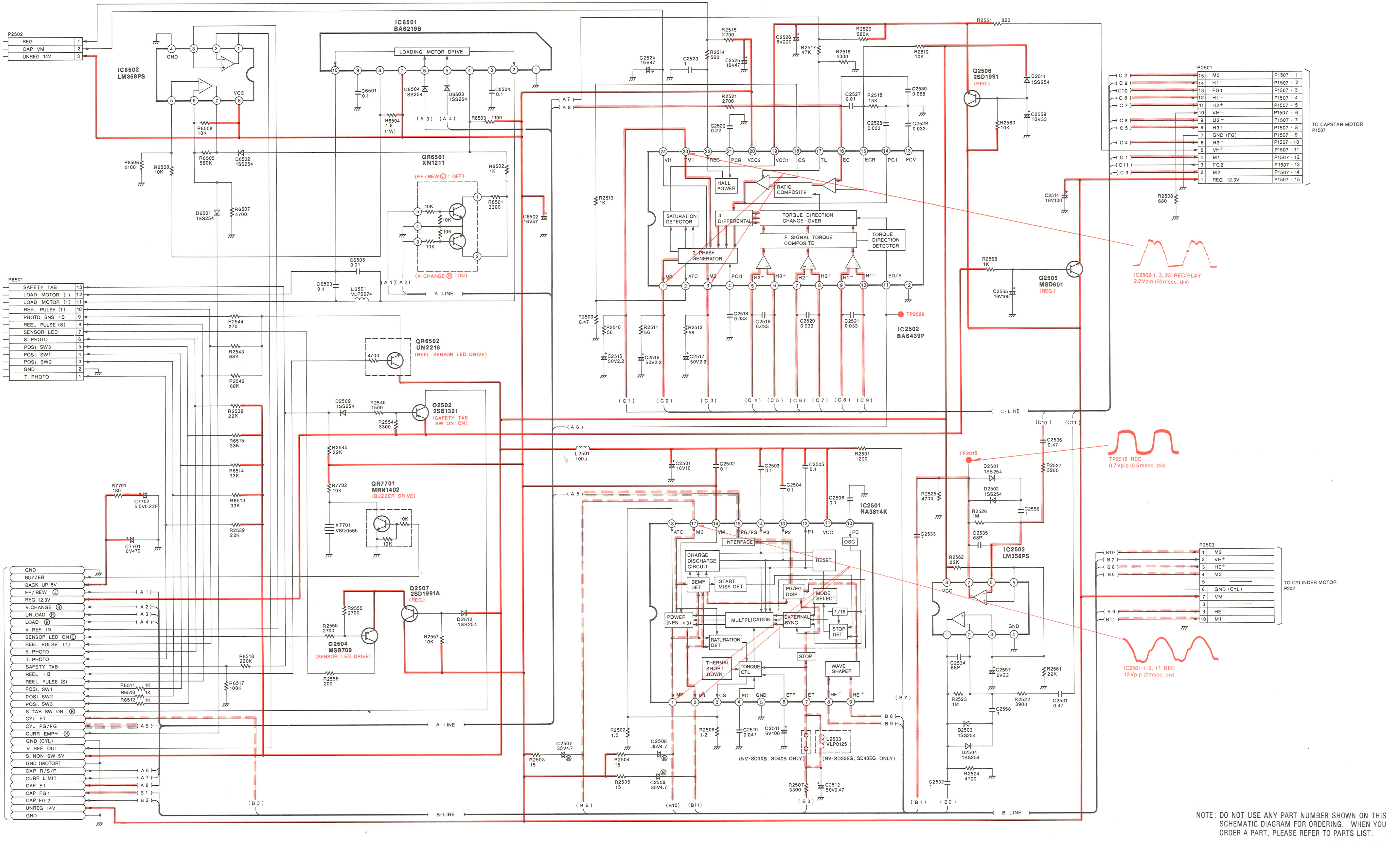
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

IAGRAM

CAPSTAN SERVO SPEED LOOP

CYLINDER SERVO SPEED LOOP

CYLINDER SERVO PHASE LOOP


P2502
REG
CAP VM
UNREG 14V
IC6502
LM358PS
IC6501
BA6219B
LOADING MOTOR DRIVE
QR6501
XN1211
(FF/REW Ⓛ : OFF)
(V.CHANGE Ⓗ : ON)
A-LINE
P6501
SAFETY TAB
LOAD MOTOR (−)
LOAD MOTOR (+)
REEL PULSE (T)
PHOTO SNS +B
REEL PULSE (S)
SENSOR LED
S.PHOTO
POSI. SW3
POSI. SW1
POSI. SW2
GND
T. PHOTO
QR6502
UN2216
(REEL SENSOR LED DRIVE)
Q2502
2SB1321
(SAFETY TAB SW ON : ON)
QR7701
MRN1402
(BUZZER DRIVE)
X7701
VSQ0565
Q2507
2SD1991A
(REG.)
Q2504
MSB709
(SENSOR LED DRIVE)
GND
BUZZER
BACK UP 5V
FF/REW Ⓛ
REG 12.3V
V.CHANGE Ⓗ
UNLOAD Ⓗ
LOAD Ⓗ
V REF IN
SENSOR LED ON Ⓛ
REEL PULSE (T)
S. PHOTO
T. PHOTO
SAFETY TAB
REEL +B
REEL PULSE (S)
POSI. SW1
POSI. SW2
POSI. SW3
S.TAB SW ON Ⓗ
CYL ET
CYL PG/FG
CURR EMPH Ⓗ
GND (CYL)
V REF OUT
S.NON SW 5V
GND (MOTOR)
CAP R/S/F
CURR LIMIT
CAP ET
CAP FG1
CAP FG2
UNREG 14V
GND
B-LINE
IC2502
BA6439P
HALL POWER
RATIO COMPOSITE
SATURATION DETECTOR
3 DIFFERENTIAL
TORQUE DIRECTION CHANGE-OVER
P SIGNAL TORQUE COMPOSITE
TORQUE DIRECTION DETECTOR
3 PHASE GENERATOR
TP2026
C-LINE
Q2506
2SD1991
(REG.)
Q2505
MSD601
(REG.)
IC2502-1, 3, 23 REC/PLAY
2.2Vp-p (50msec. div)
P2501
M3
H1+
FG1
H2+
H1−
VH−
H2−
H3+
GND (FG)
H3−
VH+
M1
FG2
M2
REG 12.3V
TO CAPSTAN MOTOR P1507
IC2501
NA3814K
INTERFACE
CHARGE DISCHARGE CIRCUIT
RESET
BEMF DET
START MISS DET
PG/FG DISP
MODE SELECT
POWER (NPN ×3)
MULTIPLICATION
EXTERNAL SYNC
1/16
STOP DET
SATURATION DET
STOP
THERMAL SHORT DOWN
TORQUE CTL
WAVE SHAPER
(NV-SD30B, SD40B ONLY)
(NV-SD30EG, SD40EG ONLY)
TP2015
TP2015 REC
0.7Vp-p (0.5msec. div)
IC2503
LM358PS
IC2501-1, 2, 17 REC
12Vp-p (2msec. div)
P2503
M2
VH+
HE+
M3
GND (CYL)
VM
HE−
M1
TO CYLINDER MOTOR P202

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

SUB SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	14.4	14.4	0.1	0.5	0	2.5	2.5	0.6	0.6	2.6	5.1	3.7	3.6	3.8	0.8	13.9	14.4	0.1		
PLAY	14.1	12.8	0.1	0.6	0	2.5	2.4	0.6	0.6	2.6	5.1	3.6	3.6	3.6	1.4	13.7	14.2	0.1		
REC	13.7	14.0	0.1	0.6	0	2.5	2.5	0.6	0.6	2.6	5.1	3.6	3.8	3.7	1.4	13.6	14.0	0.1		
F.F	13.0	13.9	0.1	0.5	0	2.5	2.5	0.6	0.6	2.6	5.1	3.7	3.8	3.6	1.1	13.7	14.1	0.1		
REW	12.7	13.9	0.1	0.6	0	2.5	2.5	0.6	0.6	2.7	5.1	3.7	3.7	3.7	1.4	13.6	13.8	0.1		
REF. NO.	IC2502																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	2.0	0	2.0	1.5	2.3	2.3	2.3	2.3	2.3	2.3	2.1	0	0	0.4	2.9	0.2	0.4	0	5.1	13.9
PLAY	2.8	0.1	2.8	1.5	2.3	2.3	2.3	2.3	2.3	2.3	0	0	0.7	0.7	2.9	2.7	0.4	0.1	5.1	13.7
REC	2.7	0.1	2.7	1.5	2.3	2.3	2.3	2.3	2.3	2.3	0	0	0.7	0.7	2.9	2.7	0.4	0.1	5.1	13.7
F.F	7.4	0.1	7.1	1.5	2.3	2.3	2.3	2.3	2.3	2.3	0	0	0.6	0.7	2.9	2.5	0.4	0.1	5.1	13.7
REW	7.3	0.1	5.6	1.5	2.3	2.3	2.3	2.3	2.3	2.3	5.1	0	0.7	0.7	2.9	2.4	0.4	0.1	5.0	13.6
REF. NO.	IC2502																			
MODE	21	22	23	24																
STOP	1.3	13.2	2.0	4.5																
PLAY	2.0	12.4	0.1	4.5																
REC	2.0	12.3	0.7	4.5																
F.F	11.5	3.5	7.3	13.5																
REW	11.5	12.2	7.2	13.5																
REF. NO.	IC2503																			
MODE	1	2	3	4	5	6	7	8												
STOP	2.5	2.6	2.6	0	2.6	2.6	2.5	5.1												
PLAY	2.5	2.6	2.6	0	2.6	2.6	2.5	5.1												
REC	2.5	2.6	2.6	0	2.6	2.6	2.5	5.1												
F.F	2.5	2.6	2.6	0	2.6	2.6	2.5	5.1												
REW	2.5	2.6	2.6	0	2.6	2.6	2.6	5.1												
REF. NO.	IC6501										IC6502									
MODE	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8		
STOP	0	0.3	0.1	6.7	0	0	13.9	13.9	0.1	0.3	2.5	2.5	2.5	0	4.7	0.7	12.7	13.9		
PLAY	0	0.5	0.1	6.6	0	0	13.7	13.7	0.1	0.5	2.5	2.5	2.5	0	4.6	0.7	12.4	13.7		
REC	0	0.3	0.1	6.5	0	0	13.5	13.5	0.1	0.3	2.6	2.6	2.5	0	4.6	0.7	12.3	13.5		
F.F	0	0.2	0.1	13.6	0	0	13.7	13.7	0.1	0.2	2.5	2.5	2.5	0	4.6	0.7	13.1	13.7		
REW	0	0.8	0.4	13.5	0	0	13.6	13.6	0.1	0.5	2.5	2.5	2.5	0	4.6	0.7	13.1	13.6		

SUB SERVO TRANSISTORs DC VOLTAGE CHART (SP MODE)

REF. NO.	Q2502			Q2504			Q2505			Q2506			Q2507					
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B			
STOP	12.2	12.2	11.5	5.2	−0.1	5.1	11.5	13.9	12.2	5.1	13.9	5.7	5.2	13.9	5.7			
PLAY	12.2	12.2	11.5	5.0	5.0	4.3	11.5	13.7	12.2	5.1	13.7	5.7	5.0	13.7	5.7			
REC	12.2	12.1	11.5	5.0	5.0	4.3	11.5	13.5	12.2	5.1	13.5	5.7	5.0	13.5	5.7			
F.F	12.2	12.2	11.5	5.0	5.0	4.3	11.5	13.7	12.2	5.1	13.7	5.7	5.0	13.7	5.7			
REW	12.2	12.2	11.5	5.0	5.0	4.2	11.5	13.6	12.2	5.1	13.6	5.7	5.0	13.6	5.7			
REF. NO.	QR6501						QR6502											
MODE	1	2	3	4	5		E	C	B									
STOP	0	0.1	5.0	0	5.0		5.0	5.1	6.8									
PLAY	0	0.1	5.0	0	5.0		5.0	5.1	6.8									
REC	0	0.1	5.1	0	5.0		5.1	5.1	9.8									
F.F	13.4	13.6	0	0	0		5.0	5.1	6.8									
REW	13.5	13.5	0	0.1	0		5.0	5.1	6.8									

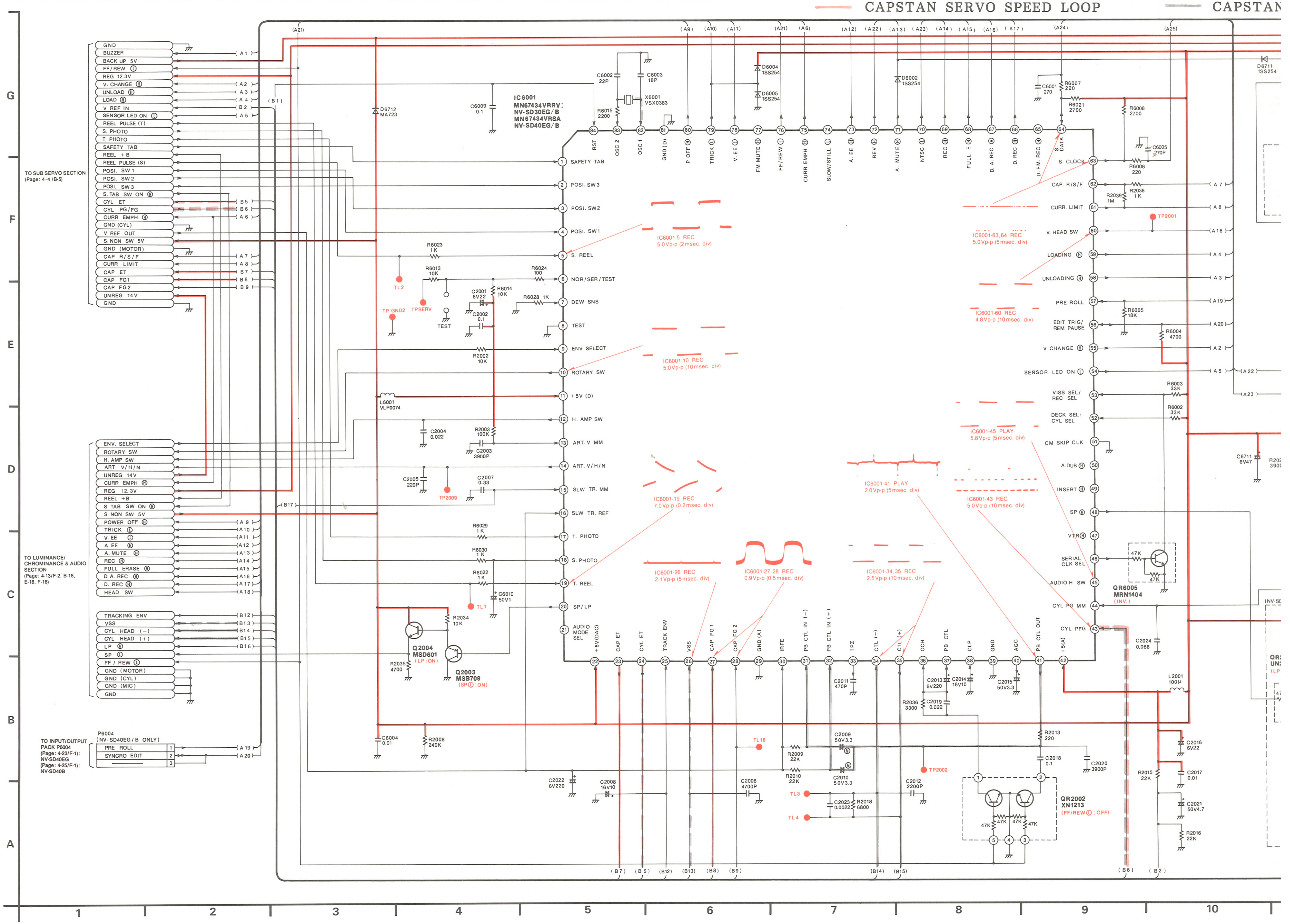
SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

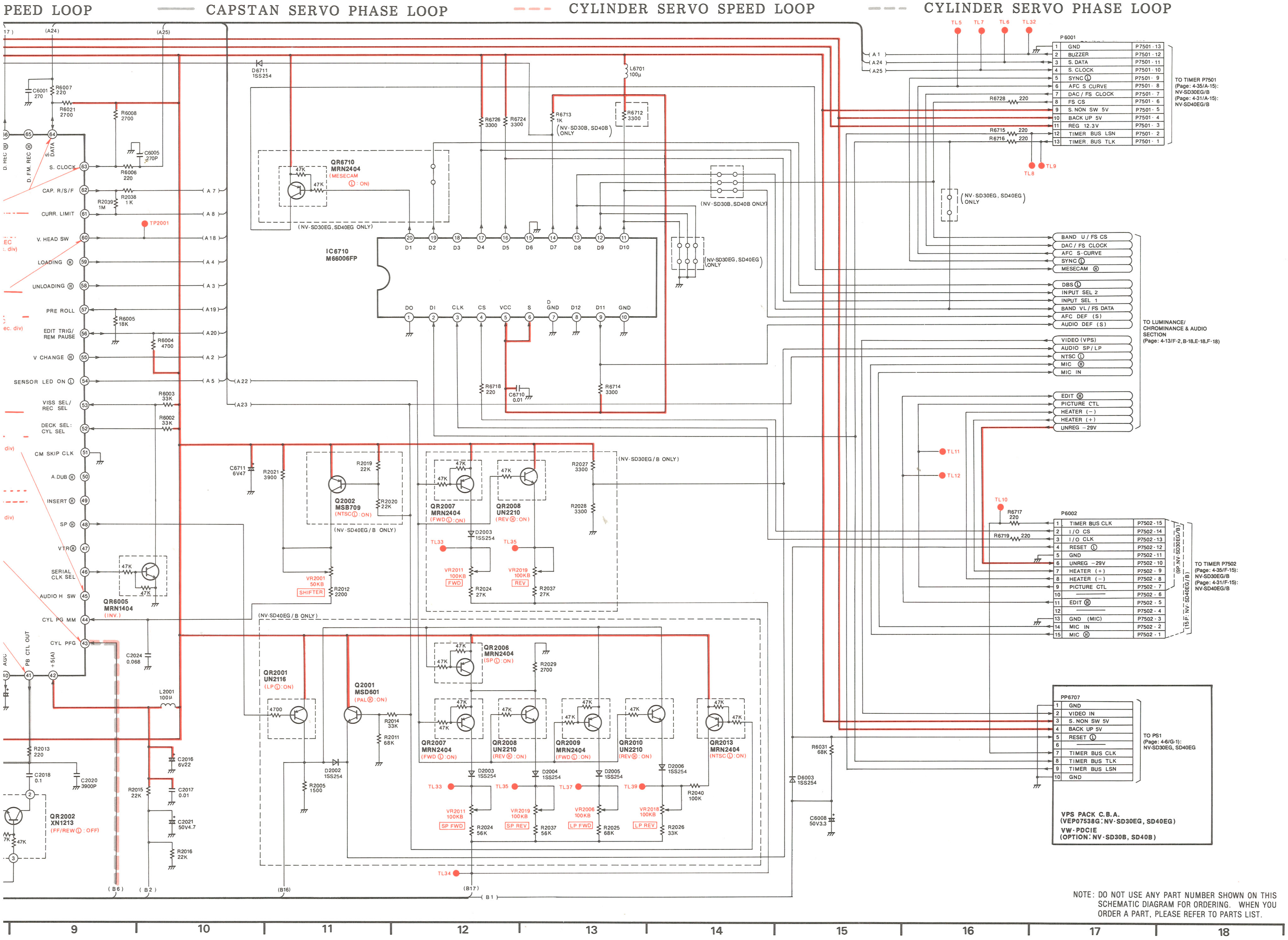
REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0.4	4.9	0	4.9	0.1	2.7	0	0	0.4	5.1	5.1	0	0	0	0	2.5	4.8	5.0	5.0	0
PLAY	0.1	4.9	0	0	0.1	5.1	0	0	4.0	1.5	5.1	0	0	0	0	2.5	4.8	5.0	5.0	0
REC	0.6	5.0	0	0	4.8	5.1	0	0	4.6	5.0	5.1	0	0	0	0	2.5	5.0	5.0	5.0	0
F.F	0	5.0	4.9	0	2.4	5.1	0	0	3.0	5.1	5.1	0	0	0	0	2.5	4.9	4.9	1.6	0
REW	0	5.1	5.1	0	1.6	5.1	0	0	2.6	5.1	5.1	0	0	0	0	2.5	4.7	4.9	1.7	0
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	5.0	5.1	0.2	2.5	0.3	2.2	2.0	2.5	0	2.5	2.4	2.0	5.0	0	2.0	2.0	2.0	2.5	2.2	2.5
PLAY	5.1	5.1	2.6	2.4	3.8	2.5	2.5	2.5	0	2.5	2.7	2.4	5.0	0	0	0	2.5	2.5	0	2.8
REC	0	5.1	2.7	2.5	0.4	2.5	2.5	2.5	0	2.5	2.4	2.7	5.0	3.5	3.7	0	2.5	2.5	0	2.5
F.F	5.1	5.1	2.2	2.5	2.7	2.5	2.5	2.5	0	2.5	2.5	2.6	5.0	0	0	0	2.5	1.6	0	2.9
REW	5.1	5.1	2.3	2.4	2.1	2.8	2.1	2.3	0	2.5	2.5	2.6	5.0	2.6	2.6	2.0	2.5	1.8	0	2.9
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	2.5	5.1	1.4	3.6	0	4.3	0	5.1	0	0	0	5.0	1.4	5.1	5.0	5.1	0	0	0	0.3
PLAY	2.4	5.1	0.8	3.8	3.8	4.5	0	5.1	0	0	0	0	1.3	0	0	0	0	0	0	0
REC	2.5	5.1	0.8	3.8	0	4.6	0	0	0	0	0	5.1	1.3	0.1	5.1	5.1	0	0	0	5.1
F.F	2.5	5.1	1.5	3.7	0	4.3	0	5.1	0	0	0	5.1	1.3	0.1	0	5.1	0	0	0	5.1
REW	2.5	5.1	1.1	3.7	0	4.4	0	5.1	0	0	0	4.9	1.0	0.1	0	5.1	0	0	0	5.0
REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	5.1	2.1	4.6	4.0	0	0	0	0	0.3	5.1	0	5.1	5.1	0	0.1	5.0	0	0	5.1	0
PLAY	5.1	0	4.9	4.5	0	0	0	0	0.3	5.1	0	0	0	0	0.1	5.0	0	5.1	5.1	0
REC	5.1	0	4.6	4.4	5.1	5.1	5.1	5.1	5.1	5.1	0	0	5.1	0	0.1	5.0	0	0	5.1	0
F.F	5.1	0	4.6	4.6	0	0	0	0	0.3	5.1	0	0	5.1	0	0.1	0	0	0	5.1	0
REW	5.1	5.1	4.6	4.6	0	0	0	0	0.3	5.1	0	5.1	5.1	0	0.1	0	0	0	5.1	0
REF. NO.	IC6001																			
MODE	81	82	83	84																
STOP	0	2.6	2.6	3.9																
PLAY	0	2.6	2.6	4.1																
REC	0	2.6	2.6	4.3																
F.F	0	2.6	2.6	4.1																
REW	0	2.6	2.6	3.9																
REF. NO.	IC6710																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	3.9	5.0	5.0	5.1	5.1	0	0	0.1	0	0.1	2.2	0	0.2	0	5.1	0.1	0.1	0.5	5.1
PLAY	0	3.9	4.9	5.0	5.1	5.1	0	0	0.1	0	0.1	2.2	0	2.2	0	5.1	0.1	0.1	0.5	5.1
REC	0	4.1	5.0	5.0	5.1	5.1	0	0	0.1	0	0.1	2.2	0	0.2	0	5.1	0.1	0.1	2.2	5.1
F.F	0	3.9	5.0	5.0	5.1	5.1	0	0	0.1	0	0.1	2.2	0	0.2	0	5.0	0.1	0.1	0.5	4.8
REW	0	3.9	5.0	5.0	5.1	5.1	0	0	0.1	0	0.1	2.2	0	0.2	0	5.1	0	0.1	2.2	5.1

SYSTEM CONTROL & SERVO TRANSISTORs DC VOLTAGE CHART (SP MODE)

REF. NO.	Q2001			Q2002			Q2003			Q2004								
MODE	E	C	B	E	C	B	E	C	B	E	C	B						
STOP	2.9	5.1	3.4	5.1	4.8	5.1	0.6	0	0	0.3	5.1	0.6						
PLAY	2.9	5.1	3.4	5.1	4.7	5.1	0.6	0	0	0.3	5.1	0.6						
REC	2.9	5.1	3.3	5.1	4.7	5.1	0.6	0	0	0.3	5.1	0.6						
F.F	2.9	5.1	3.4	5.1	4.6	5.0	0.6	0	0	0.3	5.1	0.6						
REW	2.9	5.1	3.5	5.1	4.8	5.1	0.6	0	0	0.3	5.1	0.6						
REF. NO.	QR2001			QR2002						QR2006			QR2007			QR2008		
MODE	E	C	B	1	2	3	4	5		E	C	B	E	C	B	E	C	B
STOP	5.1	0.3	5.1	0	0	5.0	1.8	5.0		5.1	5.1	0.3	5.1	0	5.1	0	5.1	5.1
PLAY	5.1	0.2	5.1	0	0	5.0	0	5.0		0	5.1	0.2	5.1	5.1	0	0.3	5.1	0
REC	5.1	0.2	5.1	0	0	5.0	0	5.0		5.1	5.1	0.2	5.1	5.1	0	0.2	5.1	0
F.F	5.1	0.2	5.1	0	2.0	0	0	0		4.3	5.1	0.2	5.1	5.0	0	0.3	5.1	0
REW	5.1	0.3	5.1	0	1.2	0	0	0		5.1	5.1	0.3	5.1	3.0	5.1	4.5	5.1	5.1
REF. NO.	QR2009			QR2010			QR6005			QR6710								
MODE	E	C	B	E	C	B	E	C	B	E	C	B						
STOP	0.3	−0.2	5.1	0.4	0.3	5.1	0	1.1	4.1	5.1	0.3	5.0						
PLAY	0.2	−0.3	0	−0.1	0.2	0	0	1.1	4.1	5.1	0.3	4.9						
REC	0.2	−0.2	0	−0.1	0.2	0	0	1.4	3.7	5.1	0.3	5.1						
F.F	0.2	−3.7	0	−0.1	0.2	0	0	1.4	3.5	5.1	0.3	4.9						
REW	0.4	−1.0	5.1	0.4	0.4	5.1	0	1.4	3.7	5.1	0.3	4.9						

4-3. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM

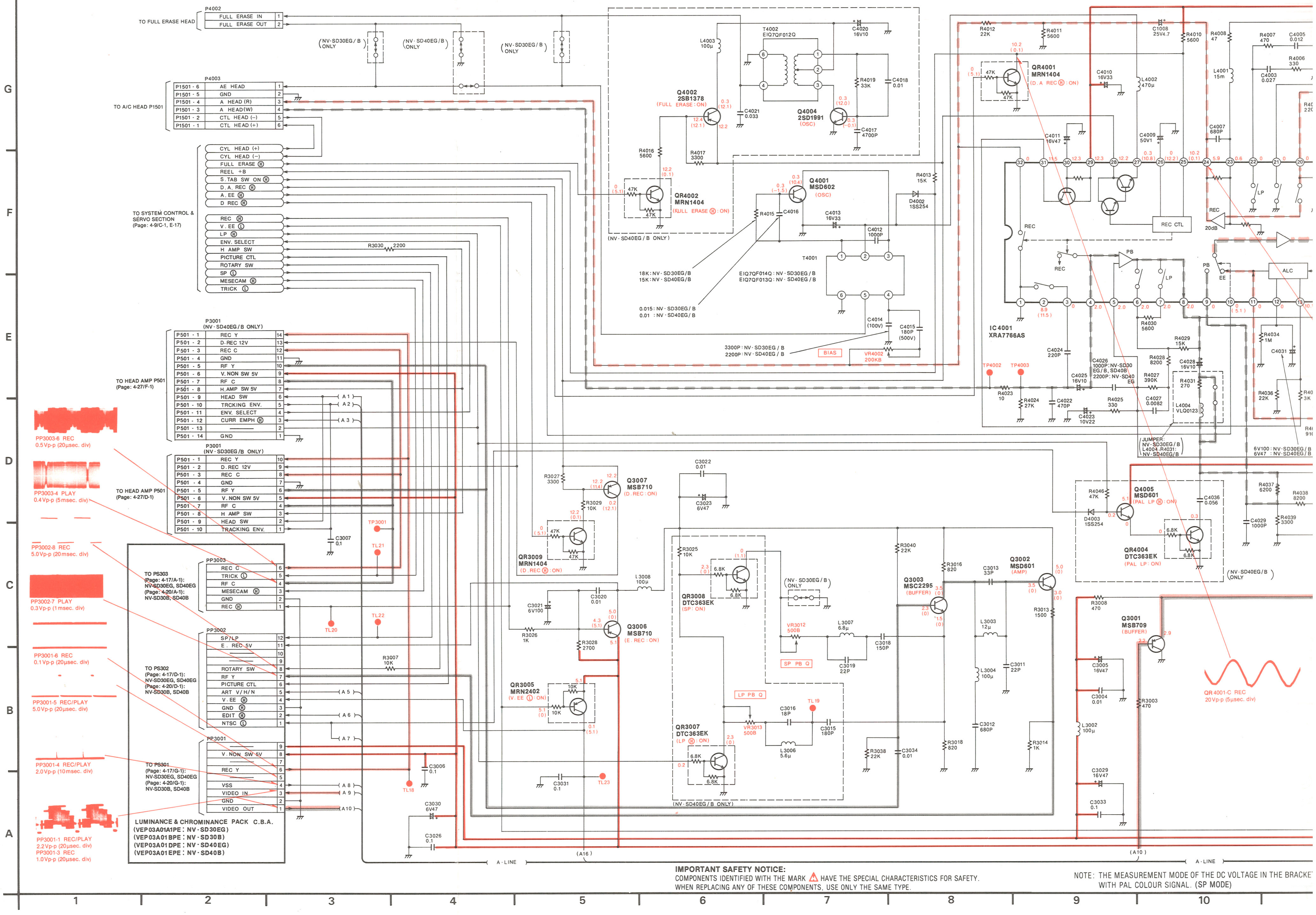

CAPSTAN SERVO SPEED LOOP
CAPSTAN
IC6001
MN67434VRRV:
NV-SD30EG/B
MN67434VRSA
NV-SD40EG/B
TO SUB SERVO SECTION
(Page: 4-4 / B-5)
GND
BUZZER
BACK UP 5V
FF/REW Ⓛ
REG 12.3V
V. CHANGE Ⓗ
UNLOAD Ⓗ
LOAD Ⓗ
V. REF IN
SENSOR LED ON Ⓛ
REEL PULSE (T)
S. PHOTO
T. PHOTO
SAFETY TAB
REEL +B
REEL PULSE (S)
POSI. SW 1
POSI. SW 2
POSI. SW 3
S. TAB SW ON Ⓗ
CYL ET
CYL PG/FG
CURR EMPH Ⓗ
GND (CYL)
V REF OUT
S. NON SW 5V
GND (MOTOR)
CAP R/S/F
CURR. LIMIT
CAP ET
CAP FG1
CAP FG2
UNREG 14V
GND
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION
(Page: 4-13/F-2, B-18, E-18, F-18)
ENV. SELECT
ROTARY SW
H. AMP SW
ART V/H/N
UNREG 14V
CURR EMPH Ⓗ
REG 12.3V
REEL +B
S TAB SW ON Ⓗ
S NON SW 5V
POWER OFF Ⓗ
TRICK Ⓛ
V. EE Ⓛ
A. EE Ⓗ
A. MUTE Ⓗ
REC Ⓗ
FULL ERASE Ⓗ
D. A. REC Ⓗ
D. REC Ⓗ
HEAD SW
TRACKING ENV
VSS
CYL HEAD (−)
CYL HEAD (+)
LP Ⓗ
SP Ⓗ
FF / REW Ⓛ
GND (MOTOR)
GND (CYL)
GND (MIC)
GND
TO INPUT/OUTPUT PACK P6004
(Page: 4-23/F-1): NV-SD40EG
(Page: 4-25/F-1): NV-SD40B
P6004
(NV-SD40EG/B ONLY)
PRE ROLL
SYNCRO EDIT
SAFETY TAB
POSI. SW3
POSI. SW2
POSI. SW1
S. REEL
NOR/SER/TEST
DEW SNS
TEST
ENV SELECT
ROTARY SW
+5V (D)
H. AMP SW
ART. V MM
ART. V/H/N
SLW TR. MM
SLW TR. REF
T. PHOTO
S. PHOTO
T. REEL
SP/LP
AUDIO MODE SEL
RST
OSC 2
OSC 1
GND (D)
P. OFF Ⓗ
TRICK Ⓛ
V. EE Ⓛ
FM MUTE Ⓗ
FF/REW Ⓛ
CURR. EMPH Ⓗ
SLOW/STILL Ⓛ
A. EE Ⓗ
REV Ⓗ
A. MUTE Ⓗ
NTSC Ⓛ
REC Ⓗ
FULL. E Ⓗ
D. A. REC Ⓗ
D. REC Ⓗ
D. FM. REC Ⓗ
S. DATA
S. CLOCK
CAP. R/S/F
CURR. LIMIT
V. HEAD SW
LOADING Ⓗ
UNLOADING Ⓗ
PRE ROLL
EDIT TRIG/ REM PAUSE
V CHANGE Ⓗ
SENSOR LED ON Ⓛ
VISS SEL/ REC SEL
DECK SEL: CYL SEL
CM SKIP CLK
A DUB Ⓗ
INSERT Ⓗ
SP Ⓗ
VTR Ⓗ
SERIAL CLK SEL
AUDIO H SW
CYL PG MM
CYL PFG
+5V (DAC)
CAP ET
CYL ET
TRACK ENV
VSS
CAP FG 1
CAP FG 2
GND (A)
IRFE
PB CTL IN (−)
PB CTL IN (+)
TPZ
CTL (−)
CTL (+)
OCH
PB CTL
CLP
GND
AGC
PB CTL OUT
+5 (A)
IC6001-5 REC 5.0Vp-p (2msec. div)
IC6001-10 REC 5.0Vp-p (10msec. div)
IC6001-19 REC 7.0Vp-p (0.2msec. div)
IC6001-26 REC 2.1Vp-p (5msec. div)
IC6001-27, 28 REC 0.9Vp-p (0.5msec. div)
IC6001-34, 35 REC 2.5Vp-p (10msec. div)
IC6001-41 PLAY 2.0Vp-p (5msec. div)
IC6001-43 REC 5.0Vp-p (10msec. div)
IC6001-45 PLAY 5.8Vp-p (5msec. div)
IC6001-60 REC 4.8Vp-p (10msec. div)
IC6001-63, 64 REC 5.0Vp-p (5msec. div)
D6712 MA723
C6009 0.1
C6002 22P
C6003 18P
X6001 VSX0383
R6015 2200
D6004 1SS254
D6005 1SS254
D6002 1SS254
C6001 270
R6007 220
R6021 2700
R6008 2700
C6005 270P
R6006 220
R2039 1M
R2038 1K
TP2001
R6005 18K
R6004 4700
R6003 33K
R6002 33K
D6711 1SS254
C6711 6V47
R6023 1K
R6013 10K
R6024 100
C2001 6V22
R6014 10K
R6028 1K
C2002 0.1
TL2
TP GND2
TPSERV
TEST
R2002 10K
L6001 VLP0074
C2004 0.022
R2003 100K
C2003 3900P
C2005 220P
TP2009
C2007 0.33
R6029 1K
R6030 1K
R6022 1K
C6010 50V1
TL1
R2034 10K
Q2004 MSD601 (LP: ON)
R2035 4700
Q2003 MSB709 (SP Ⓛ: ON)
QR6005 MRN1404 (INV.)
47K
C2024 0.068
L2001 100μ
C6004 0.01
R2008 240K
C2022 6V220
C2008 16V10
TL16
C2006 4700P
R2009 22K
R2010 22K
C2009 50V3.3
C2010 50V3.3
TL3
TL4
C2023 0.0022
R2018 6800
TP2002
C2012 2200P
C2011 470P
R2036 3300
C2019 0.022
C2013 6V220
C2014 16V10
C2015 50V3.3
R2013 220
C2018 0.1
C2020 3900P
QR2002 XN1213 (FF/REW Ⓛ: OFF)
47K
C2016 6V22
C2017 0.01
R2015 22K
C2021 50V4.7
R2016 22K
A1
A2
A3
A4
B1
B2
A5
B5
B6
A6
A7
A8
B7
B8
B9
A9
A10
A11
A12
A13
A14
A15
A16
A17
A18
B12
B13
B14
B15
B16
B17
A19
A20
A21
A22
A23
A24
A25
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10


PEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
TL5 TL7 TL6 TL32
P6001
1 GND P7501 - 13
2 BUZZER P7501 - 12
3 S. DATA P7501 - 11
4 S. CLOCK P7501 - 10
5 SYNC Ⓛ P7501 - 9
6 AFC S CURVE P7501 - 8
7 DAC / FS CLOCK P7501 - 7
8 FS CS P7501 - 6
9 S. NON SW 5V P7501 - 5
10 BACK UP 5V P7501 - 4
11 REG 12.3V P7501 - 3
12 TIMER BUS LSN P7501 - 2
13 TIMER BUS TLK P7501 - 1
TO TIMER P7501 (Page: 4-35/A-15): NV-SD30EG/B (Page: 4-31/A-15): NV-SD40EG/B
R6728 220
R6715 220
R6716 220
TL8 TL9
(NV-SD30EG, SD40EG) ONLY
BAND U / FS CS
DAC / FS CLOCK
AFC S-CURVE
SYNC Ⓛ
MESECAM Ⓗ
DBS Ⓛ
INPUT SEL 2
INPUT SEL 1
BAND VL / FS DATA
AFC DEF (S)
AUDIO DEF (S)
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION (Page: 4-13/F-2, B-18, E-18, F-18)
VIDEO (VPS)
AUDIO SP/LP
NTSC Ⓛ
MIC Ⓗ
MIC IN
EDIT Ⓗ
PICTURE CTL
HEATER (−)
HEATER (+)
UNREG −29V
TL11
TL12
TL10
R6717 220
R6719 220
P6002
1 TIMER BUS CLK P7502 - 15
2 I/O CS P7502 - 14
3 I/O CLK P7502 - 13
4 RESET Ⓛ P7502 - 12
5 GND P7502 - 11
6 UNREG −29V P7502 - 10
7 HEATER (+) P7502 - 9
8 HEATER (−) P7502 - 8
9 PICTURE CTL P7502 - 7
10 P7502 - 6
11 EDIT Ⓗ P7502 - 5
12 P7502 - 4
13 GND (MIC) P7502 - 3
14 MIC IN P7502 - 2
15 MIC Ⓗ P7502 - 1
(8P: NV-SD30EG/B)
(15P: NV-SD40EG/B)
TO TIMER P7502 (Page: 4-35/F-15): NV-SD30EG/B (Page: 4-31/F-15): NV-SD40EG/B
PP6707
1 GND
2 VIDEO IN
3 S. NON SW 5V
4 BACK UP 5V
5 RESET Ⓛ
6
7 TIMER BUS CLK
8 TIMER BUS TLK
9 TIMER BUS LSN
10 GND
TO PS1 (Page: 4-6/G-1): NV-SD30EG, SD40EG
VPS PACK C.B.A. (VEP07538G: NV-SD30EG, SD40EG)
VW-PDCIE (OPTION: NV-SD30B, SD40B)
R6031 68K
D6003 1SS254
C6008 50V3.3
(A24) (A25)
D6711 1SS254
L6701 100µ
R6726 3300
R6724 3300
R6713 1K (NV-SD30B, SD40B) ONLY
R6712 3300
QR6710 MRN2404 (MESECAM Ⓛ: ON)
47K 47K
(NV-SD30EG, SD40EG ONLY)
(NV-SD30B, SD40B ONLY)
(NV-SD30EG, SD40EG) ONLY
IC6710 M66006FP
D1 D2 D3 D4 D5 D6 D7 D8 D9 D10
DO DI CLK CS VCC S D GND D12 D11 GND
R6718 220
C6710 0.01
R6714 3300
C6001 270
R6007 220
R6021 2700
R6008 2700
C6005 270P
R6006 220
R2039 1M
R2038 1K
TP2001
D. REC Ⓗ
D. FM. REC Ⓗ
S. DATA
S. CLOCK
CAP. R/S/F
CURR. LIMIT
V. HEAD SW
LOADING Ⓗ
UNLOADING Ⓗ
PRE ROLL
EDIT TRIG/ REM PAUSE
V CHANGE Ⓗ
SENSOR LED ON Ⓛ
VISS SEL/ REC SEL
DECK SEL/ CYL SEL
CM SKIP CLK
A.DUB Ⓗ
INSERT Ⓗ
SP Ⓗ
VTR Ⓗ
SERIAL CLK SEL
AUDIO H SW
CYL PG MM
CYL PFG
PB CTL OUT
+5(A)
AGC
A7 A8 A18 A4 A3 A19 A20 A2 A5 A22 A23
R6005 18K
R6004 4700
R6003 33K
R6002 33K
QR6005 MRN1404 (INV.)
47K 47K
C2024 0.068
L2001 100µ
C6711 6V47
R2021 3900
R2019 22K
Q2002 MSB709 (NTSC Ⓛ: ON)
R2020 22K
(NV-SD40EG/B ONLY)
VR2001 50KB SHIFTER
R2012 2200
QR2007 MRN2404 (FWD Ⓛ: ON)
QR2008 UN2210 (REV Ⓗ: ON)
(NV-SD30EG/B ONLY)
R2027 3300
R2028 3300
D2003 1SS254
TL33 TL35
VR2011 100KB FWD
VR2019 100KB REV
R2024 27K
R2037 27K
(NV-SD40EG/B ONLY)
QR2006 MRN2404 (SP Ⓛ: ON)
R2029 2700
QR2001 UN2116 (LP Ⓛ: ON)
4700
Q2001 MSD601 (PAL Ⓗ: ON)
R2014 33K
R2011 68K
QR2007 MRN2404 (FWD Ⓛ: ON)
QR2008 UN2210 (REV Ⓗ: ON)
QR2009 MRN2404 (FWD Ⓛ: ON)
QR2010 UN2210 (REV Ⓗ: ON)
QR2013 MRN2404 (NTSC Ⓛ: ON)
D2002 1SS254
R2005 1500
D2003 1SS254
D2004 1SS254
D2005 1SS254
D2006 1SS254
TL33 TL35 TL37 TL39
VR2011 100KB SP FWD
VR2019 100KB SP REV
VR2008 100KB LP FWD
VR2018 100KB LP REV
R2024 56K
R2037 56K
R2025 68K
R2026 33K
R2040 100K
TL34
R2013 220
C2018 0.1
C2020 3900P
C2016 6V22
C2017 0.01
R2015 22K
C2021 50V4.7
R2016 22K
QR2002 XN1213 (FF/REW Ⓛ: OFF)
47K 47K
(B6) (B2) (B16) (B17) (B1)
9 10 11 12 13 14 15 16 17 18

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-4. LUMINANCE/CHROMINANCE & AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PA
VIDEO MAIN SIGNAL PA

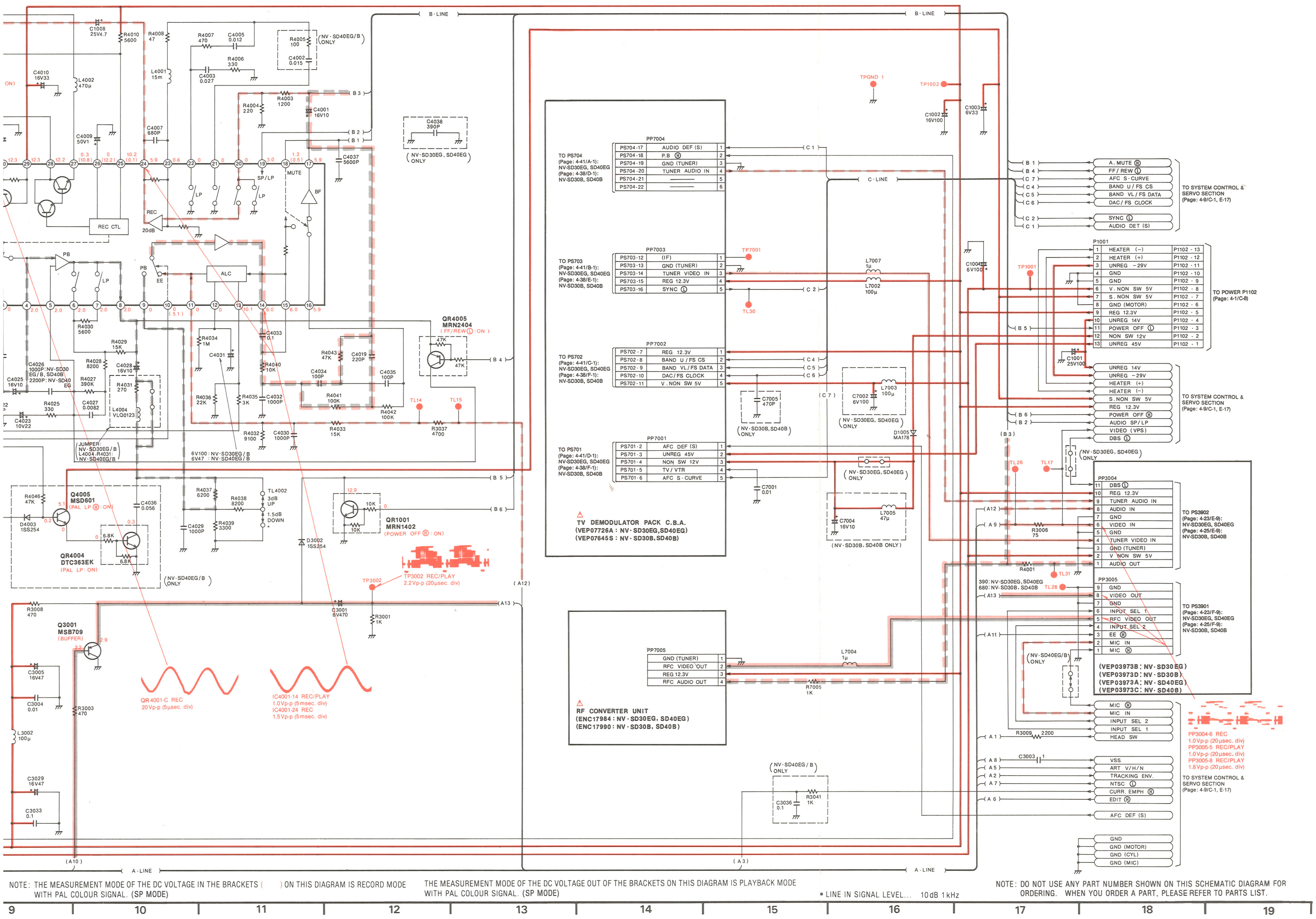


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
P4002
TO FULL ERASE HEAD
FULL ERASE IN
FULL ERASE OUT
(NV-SD30EG/B ONLY)
(NV-SD40EG/B ONLY)
P4003
TO A/C HEAD P1501
P1501-6 AE HEAD
P1501-5 GND
P1501-4 A HEAD (R)
P1501-3 A HEAD (W)
P1501-2 CTL HEAD (−)
P1501-1 CTL HEAD (+)
CYL HEAD (+)
CYL HEAD (−)
FULL ERASE Ⓡ
REEL +B
S.TAB SW ON Ⓡ
D.A. REC Ⓡ
A.EE Ⓡ
D REC Ⓡ
REC Ⓡ
V.EE Ⓛ
LP Ⓡ
ENV. SELECT
H AMP SW
PICTURE CTL
ROTARY SW
SP Ⓛ
MESECAM Ⓡ
TRICK Ⓛ
TO SYSTEM CONTROL & SERVO SECTION (Page: 4-9/C-1, E-17)
R3030 2200
P3001 (NV-SD40EG/B ONLY)
TO HEAD AMP P501 (Page: 4-27/F-1)
P501-1 REC Y
P501-2 D.REC 12V
P501-3 REC C
P501-4 GND
P501-5 RF Y
P501-6 V.NON SW 5V
P501-7 RF C
P501-8 H.AMP SW 5V
P501-9 HEAD SW
P501-10 TRCKING ENV.
P501-11 ENV. SELECT
P501-12 CURR EMPH Ⓡ
P501-13
P501-14 GND
P3001 (NV-SD30EG/B ONLY)
TO HEAD AMP P501 (Page: 4-27/D-1)
P501-1 REC Y
P501-2 D.REC 12V
P501-3 REC C
P501-4 GND
P501-5 RF Y
P501-6 V.NON SW 5V
P501-7 RF C
P501-8 H AMP SW
P501-9 HEAD SW
P501-10 TRACKING ENV.
PP3003-6 REC 0.5Vp-p (20µsec. div)
PP3003-4 PLAY 0.4Vp-p (5msec. div)
PP3002-8 REC 5.0Vp-p (20msec. div)
PP3002-7 PLAY 0.3Vp-p (1msec. div)
PP3001-6 REC 0.1Vp-p (20µsec. div)
PP3001-5 REC/PLAY 5.0Vp-p (20µsec. div)
PP3001-4 REC/PLAY 2.0Vp-p (10msec. div)
PP3001-1 REC/PLAY 2.2Vp-p (20µsec. div)
PP3001-3 REC 1.0Vp-p (20µsec. div)
PP3003
TO PS303 (Page: 4-17/A-1): NV-SD30EG, SD40EG (Page: 4-20/A-1): NV-SD30B, SD40B
REC C
TRICK Ⓛ
RF C
MESECAM Ⓡ
GND
REC Ⓡ
PP3002
TO PS302 (Page: 4-17/D-1): NV-SD30EG, SD40EG (Page: 4-20/D-1): NV-SD30B, SD40B
SP/LP
E. REC 5V
ROTARY SW
RF Y
PICTURE CTL
ART V/H/N
V.EE Ⓡ
GND Ⓡ
EDIT Ⓡ
NTSC Ⓛ
PP3001
TO PS301 (Page: 4-17/G-1): NV-SD30EG, SD40EG (Page: 4-20/G-1): NV-SD30B, SD40B
V.NON SW 5V
REC Y
VSS
VIDEO IN
GND
VIDEO OUT
LUMINANCE & CHROMINANCE PACK C.B.A.
(VEP03A01A1PE: NV-SD30EG)
(VEP03A01BPE: NV-SD30B)
(VEP03A01DPE: NV-SD40EG)
(VEP03A01EPE: NV-SD40B)
TP3001
TL21
TL20
TL22
TL18
TL19
TL23
C3007 0.1
R3007 10K
C3006 0.1
C3030 6V47
C3026 0.1
C3031 0.1
Q4002 2SB1378 (FULL ERASE: ON)
Q4004 2SD1991 (OSC)
T4002 EIQ7QF012Q
L4003 100µ
C4020 16V10
R4019 33K
C4018 0.01
C4021 0.033
C4017 4700P
R4016 5600
R4017 3300
QR4002 MRN1404 (FULL ERASE Ⓡ: ON)
Q4001 MSD602 (OSC)
R4015
C4016
C4013 16V33
C4012 1000P
R4013 15K
D4002 1SS254
T4001
18K: NV-SD30EG/B
15K: NV-SD40EG/B
EIQ7QF014Q: NV-SD30EG/B
EIQ7QF013Q: NV-SD40EG/B
0.015: NV-SD30EG/B
0.01: NV-SD40EG/B
C4014 (100V)
C4015 180P (500V)
3300P: NV-SD30EG/B
2200P: NV-SD40EG/B
BIAS
VR4002 200KB
(NV-SD40EG/B ONLY)
R4012 22K
R4011 5600
QR4001 MRN1404 (D.A REC Ⓡ: ON)
C1008 25V4.7
R4010 5600
R4008 47
R4007 470
C4005 0.012
R4006 330
L4001 15m
C4003 0.027
C4010 16V33
L4002 470µ
C4011 16V47
C4009 50V1
C4007 680P
REC CTL
REC
PB
LP
EE
ALC
20dB
IC4001 XRA7766AS
TP4002
TP4003
R4023 10
R4024 27K
C4022 470P
C4023 10V22
C4024 220P
C4025 16V10
C4026 1000P: NV-SD30EG/B, SD40B 2200P: NV-SD40EG
R4030 5600
R4029 15K
R4028 8200
C4028 16V10
R4027 390K
R4025 330
C4027 0.0082
R4031 270
L4004 VLQ0123
R4034 1M
C4031
R4036 22K
JUMPER: NV-SD30EG/B L4004, R4031: NV-SD40EG/B
6V100: NV-SD30EG/B
6V47: NV-SD40EG/B
R4046 47K
D4003 1SS254
Q4005 MSD601 (PAL LP Ⓡ: ON)
QR4004 DTC363EK (PAL LP: ON)
C4036 0.056
R4037 6200
R4038 8200
C4029 1000P
R4039 3300
(NV-SD40EG/B ONLY)
R3027 3300
Q3007 MSB710 (D.REC: ON)
R3029 10K
C3022 0.01
C3023 6V47
QR3009 MRN1404 (D.REC Ⓡ: ON)
L3008 100µ
C3021 6V100
C3020 0.01
R3026 1K
R3028 2700
Q3006 MSB710 (E.REC: ON)
QR3005 MRN2402 (V.EE Ⓛ: ON)
R3025 10K
QR3008 DTC363EK (SP: ON)
(NV-SD30EG/B ONLY)
VR3012 500B
SP PB Q
LP PB Q
L3007 6.8µ
C3018 150P
C3019 22P
C3016 18P
VR3013 500B
C3015 180P
L3006 5.6µ
QR3007 DTC363EK (LP Ⓡ: ON)
(NV-SD40EG/B ONLY)
R3040 22K
Q3003 MSC2295 (BUFFER)
R3016 820
C3013 33P
Q3002 MSD601 (AMP)
R3013 1500
L3003 12µ
L3004 100µ
C3011 22P
C3012 680P
R3038 22K
C3034 0.01
R3018 820
R3014 1K
R3008 470
Q3001 MSB709 (BUFFER)
C3005 16V47
C3004 0.01
R3003 470
L3002 100µ
C3029 16V47
C3033 0.1
QR4001-C REC 20Vp-p (5µsec. div)
A-LINE
(A16)
(A10)

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKE
WITH PAL COLOUR SIGNAL. (SP MODE)

━━ VIDEO MAIN SIGNAL PATH IN REC MODE
━━ VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
╍╍ AUDIO MAIN SIGNAL PATH IN REC MODE
╍╍ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


B-LINE
A-LINE
C-LINE
TV DEMODULATOR PACK C.B.A.
(VEP07726A : NV-SD30EG,SD40EG)
(VEP07645S : NV-SD30B,SD40B)
RF CONVERTER UNIT
(ENC17984 : NV-SD30EG, SD40EG)
(ENC17990 : NV-SD30B, SD40B)
PP7004
PP7003
PP7002
PP7001
PP7005
P1001
PP3004
PP3005
TO PS704
TO PS703
TO PS702
TO PS701
TO SYSTEM CONTROL & SERVO SECTION (Page: 4-9/C-1, E-17)
TO POWER P1102 (Page: 4-1/C-8)
TO PS3902 (Page: 4-23/E-9): NV-SD30EG, SD40EG (Page: 4-25/E-9): NV-SD30B, SD40B
TO PS3901 (Page: 4-23/F-9): NV-SD30EG, SD40EG (Page: 4-25/F-9): NV-SD30B, SD40B
(VEP03973B : NV-SD30EG)
(VEP03973D : NV-SD30B)
(VEP03973A : NV-SD40EG)
(VEP03973C : NV-SD40B)
QR4005 MRN2404 (FF/REW Ⓛ : ON)
QR1001 MRN1402 (POWER OFF Ⓗ : ON)
Q4005 MSD601 (PAL LP Ⓗ : ON)
QR4004 DTC363EK (PAL LP : ON)
Q3001 MSB709 (BUFFER)
REC CTL
ALC
MUTE
QR 4001-C REC 20Vp-p (5μsec. div)
IC4001-14 REC/PLAY 1.0Vp-p (5msec. div)
IC4001-24 REC 1.5Vp-p (5msec. div)
TP3002 REC/PLAY 2.2Vp-p (20μsec. div)
PP3004-6 REC 1.0Vp-p (20μsec. div)
PP3005-5 REC/PLAY 1.0Vp-p (20μsec. div)
PP3005-8 REC/PLAY 1.8Vp-p (20μsec. div)
9
10
11
12
13
14
15
16
17
18
19

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

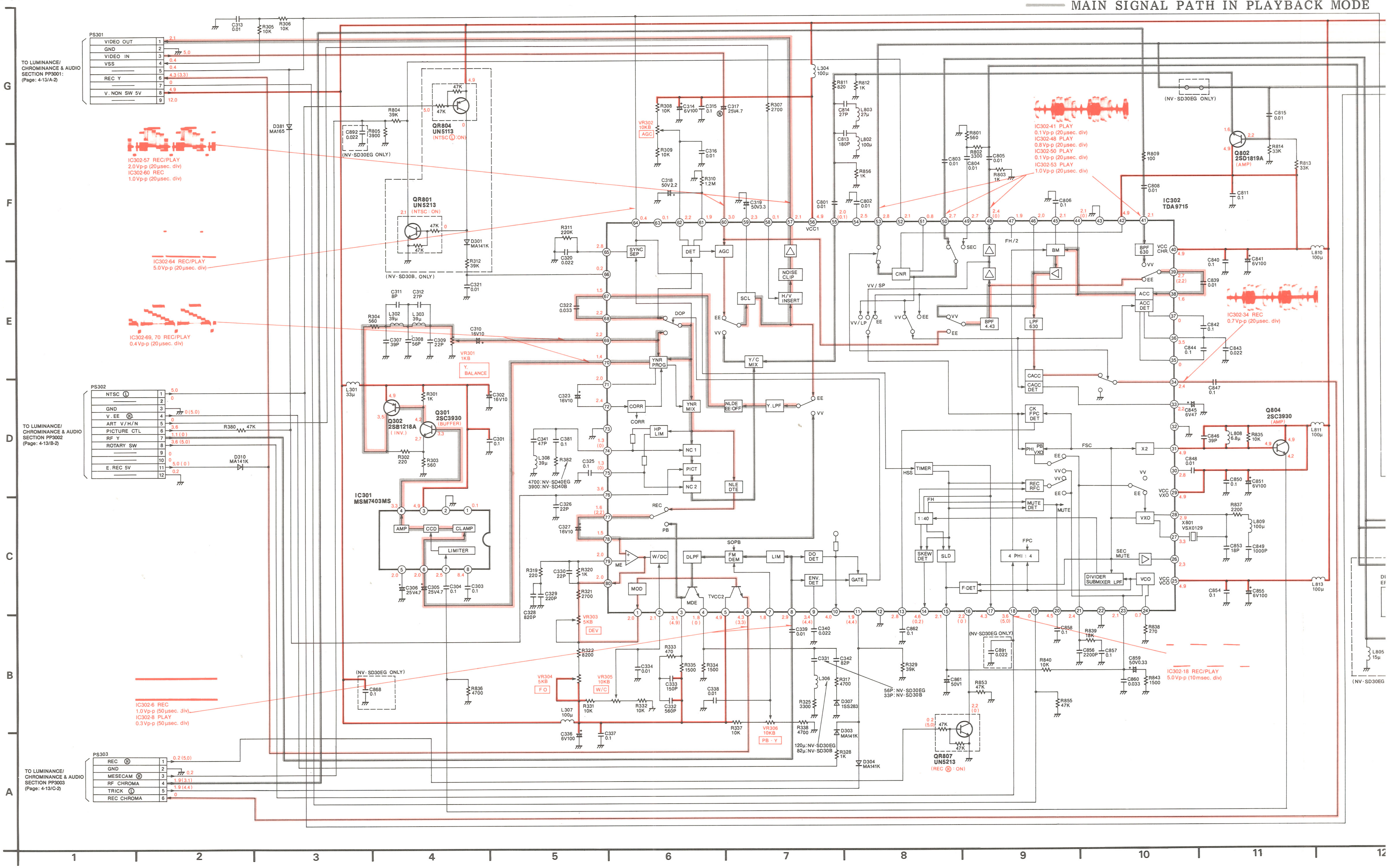
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

• LINE IN SIGNAL LEVEL... 10dB 1kHz

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-5. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM (NV-SD30EG/B)

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE



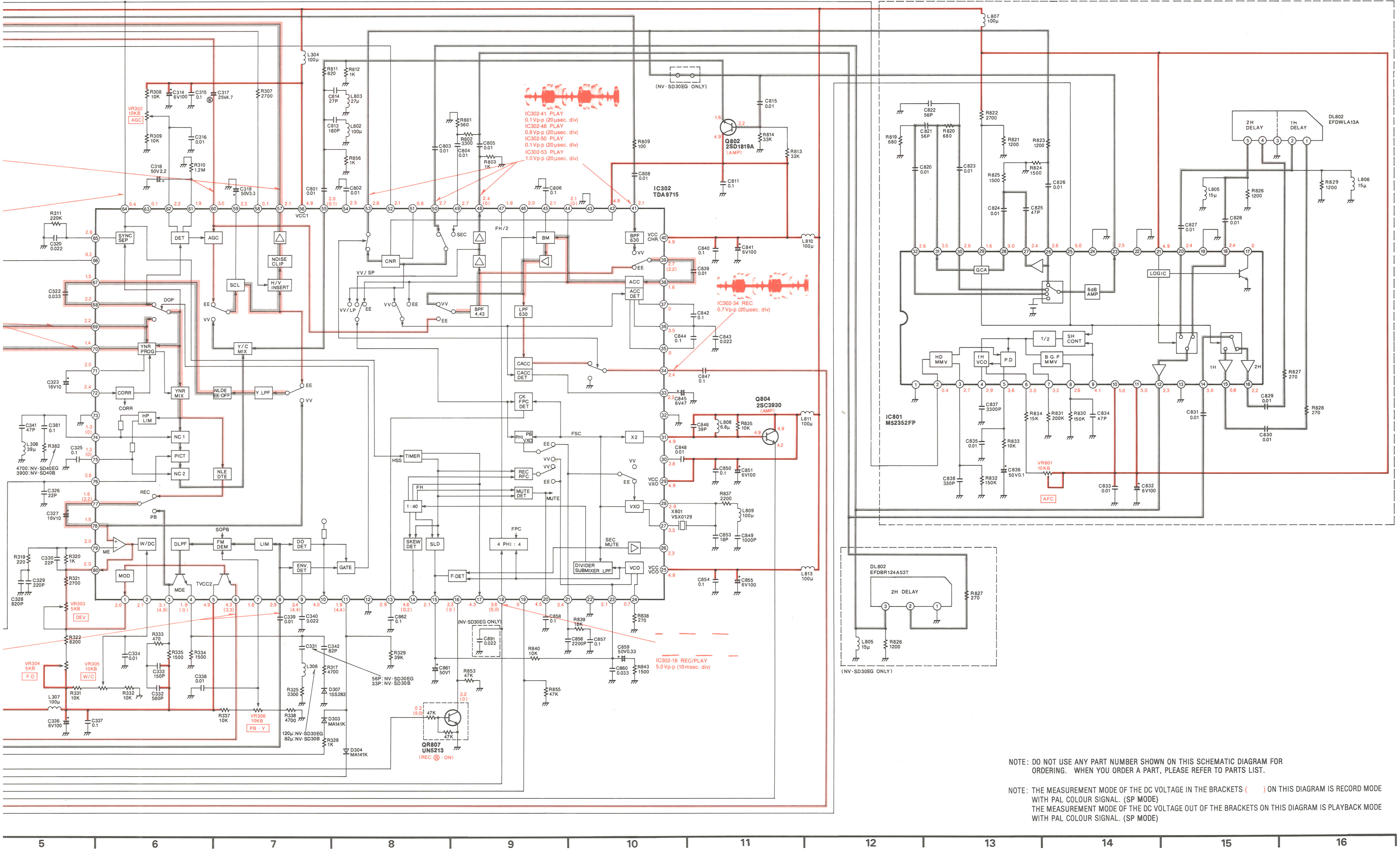
PS301
VIDEO OUT
GND
VIDEO IN
VSS
REC Y
V. NON SW 5V
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3001: (Page: 4-13/A-2)
PS302
NTSC Ⓛ
GND
V. EE Ⓗ
ART V/H/N
PICTURE CTL
RF Y
ROTARY SW
E. REC 5V
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3002 (Page: 4-13/B-2)
PS303
REC Ⓗ
GND
MESECAM Ⓗ
RF CHROMA
TRICK Ⓛ
REC CHROMA
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3003 (Page: 4-13/C-2)
IC302-57 REC/PLAY 2.0Vp-p (20µsec. div)
IC302-60 REC 1.0Vp-p (20µsec. div)
IC302-64 REC/PLAY 5.0Vp-p (20µsec. div)
IC302-69, 70 REC/PLAY 0.4Vp-p (20µsec. div)
IC302-6 REC 1.0Vp-p (50µsec. div)
IC302-8 PLAY 0.3Vp-p (50µsec. div)
IC302-41 PLAY 0.1Vp-p (20µsec. div)
IC302-48 PLAY 0.8Vp-p (20µsec. div)
IC302-50 PLAY 0.1Vp-p (20µsec. div)
IC302-53 PLAY 1.0Vp-p (20µsec. div)
IC302-34 REC 0.7Vp-p (20µsec. div)
IC302-18 REC/PLAY 5.0Vp-p (10msec. div)
QR804 UN5113 (NTSC Ⓛ ON)
QR801 UN5213 (NTSC · ON)
(NV-SD30EG ONLY)
(NV-SD30B, ONLY)
Q302 2SB1218A (INV.)
Q301 2SC3930 (BUFFER)
IC301 MSM7403MS
AMP
CCD
CLAMP
LIMITER
IC302 TDA9715
Q802 2SD1819A (AMP)
Q804 2SC3930 (AMP)
QR807 UN5213 (REC Ⓗ · ON)
SYNC SEP
DET
AGC
NOISE CLIP
H/V INSERT
SCL
DOP
YNR PROG
Y/C MIX
CORR
YNR MIX
NLDE EE/OFF
Y.LPF
HP LIM
NC 1
PICT
NC 2
NLE DTE
REC
PB
SOPB
W/DC
DLPF
FM DEM
LIM
DO DET
ENV. DET
GATE
MOD
MDE
TVCC2
ME
CNR
BM
BPF 4.43
LPF 630
BPF 630
ACC
ACC DET
CACC
CACC DET
CK FPC DET
PB PHI VXO
FSC
X2
TIMER
HSS
REC RFC
MUTE DET
MUTE
VXO
1:40
FH
SKEW DET
SLD
4 PHI : 4
FPC
F-DET
SEC MUTE
DIVIDER SUBMIXER LPF
VCO
VCC1
VCC CHR.
VCC VXO
VCC VCO
VR302 10KB AGC
VR301 1KB Y. BALANCE
VR303 5KB DEV
VR304 5KB F O
VR305 10KB W/C
VR306 10KB PB · Y
X801 VSX0129
4700 : NV-SD40EG 3900 : NV-SD40B
56P : NV-SD30EG 33P : NV-SD30B
120µ : NV-SD30EG 82µ : NV-SD30B
D381 MA165
D301 MA141K
D310 MA141K
D303 MA141K
D304 MA141K
D307 1SS283

IAGRAM (NV-SD30EG/B)

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE

LUMINANCE & CHROMINANCE PACK (NV-SD40)

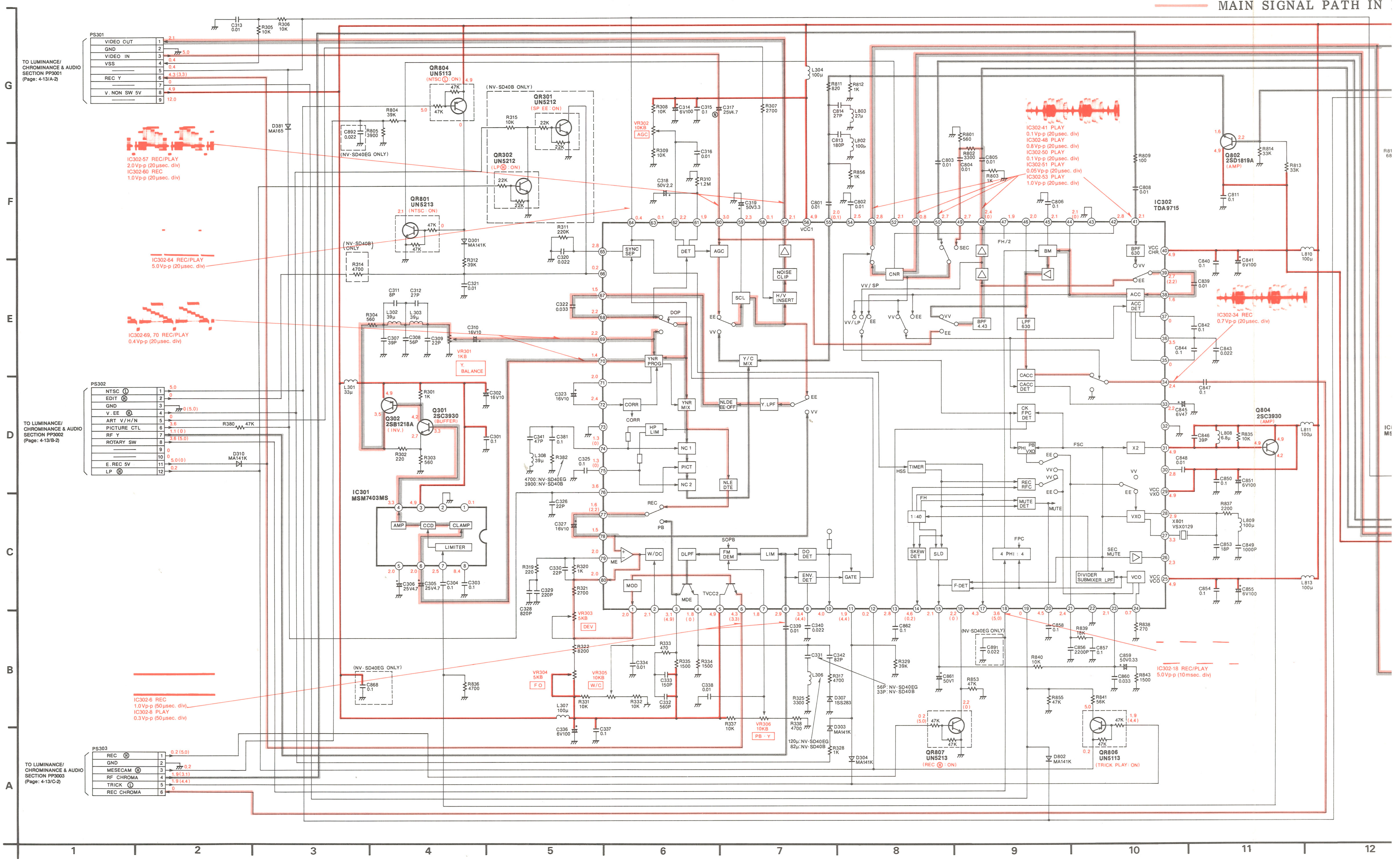
LUMINANCE & CHROMINANCE PACK (NV-SD30)


IC302
TDA9715
IC801
M52352FP
Q802
2SD1819A
(AMP)
Q804
2SC3930
(AMP)
QR807
UN5213
(REC ® ON)
DL802
EFDWLA13A
DL802
EFDBR124A53T
2H DELAY
1H DELAY
(NV-SD30EG ONLY)
(NV-SD30B ONLY)
IC302-41 PLAY
0.1Vp-p (20μsec. div)
IC302-48 PLAY
0.8Vp-p (20μsec. div)
IC302-50 PLAY
0.1Vp-p (20μsec. div)
IC302-53 PLAY
1.0Vp-p (20μsec. div)
IC302-34 REC
0.7Vp-p (20μsec. div)
IC302-18 REC/PLAY
5.0Vp-p (10msec. div)
4700: NV-SD40EG
3900: NV-SD40B
56P: NV-SD30EG
33P: NV-SD30B
120μ: NV-SD30EG
82μ: NV-SD30B
SYNC SEP
DET
AGC
NOISE CLIP
H/V INSERT
SCL
DOP
YNR PROG
Y/C MIX
YNR MIX
NLDE EE-OFF
Y LPF
CORR
HP LIM
NC 1
PICT
NC 2
NLE DTE
W/DC
DLPF
FM DEM
LIM
DO DET
ENV. DET
GATE
MOD
MDE
TVCC2
CNR
BPF 4.43
LPF 630
BM
BPF 630
ACC
ACC DET
CACC
CACC DET
CK FPC DET
PHI PB VXO
REC RFC
MUTE DET
TIMER
1:40
SKEW DET
SLD
4 PHI : 4
F-DET
DIVIDER SUBMIXER LPF
VCO
VXO
X2
SEC MUTE
X801 VSX0129
GCA
6dB AMP
LOGIC
1/2
SH CONT
HD MMV
1H VCO
P.D
B.G.P MMV
VR302 10KB AGC
VR303 5KB DEV
VR304 5KB FO
VR305 10KB W/C
VR306 10KB PB·Y
VR801 10KB AFC
5
6
7
8
9
10
11
12
13
14
15
16

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

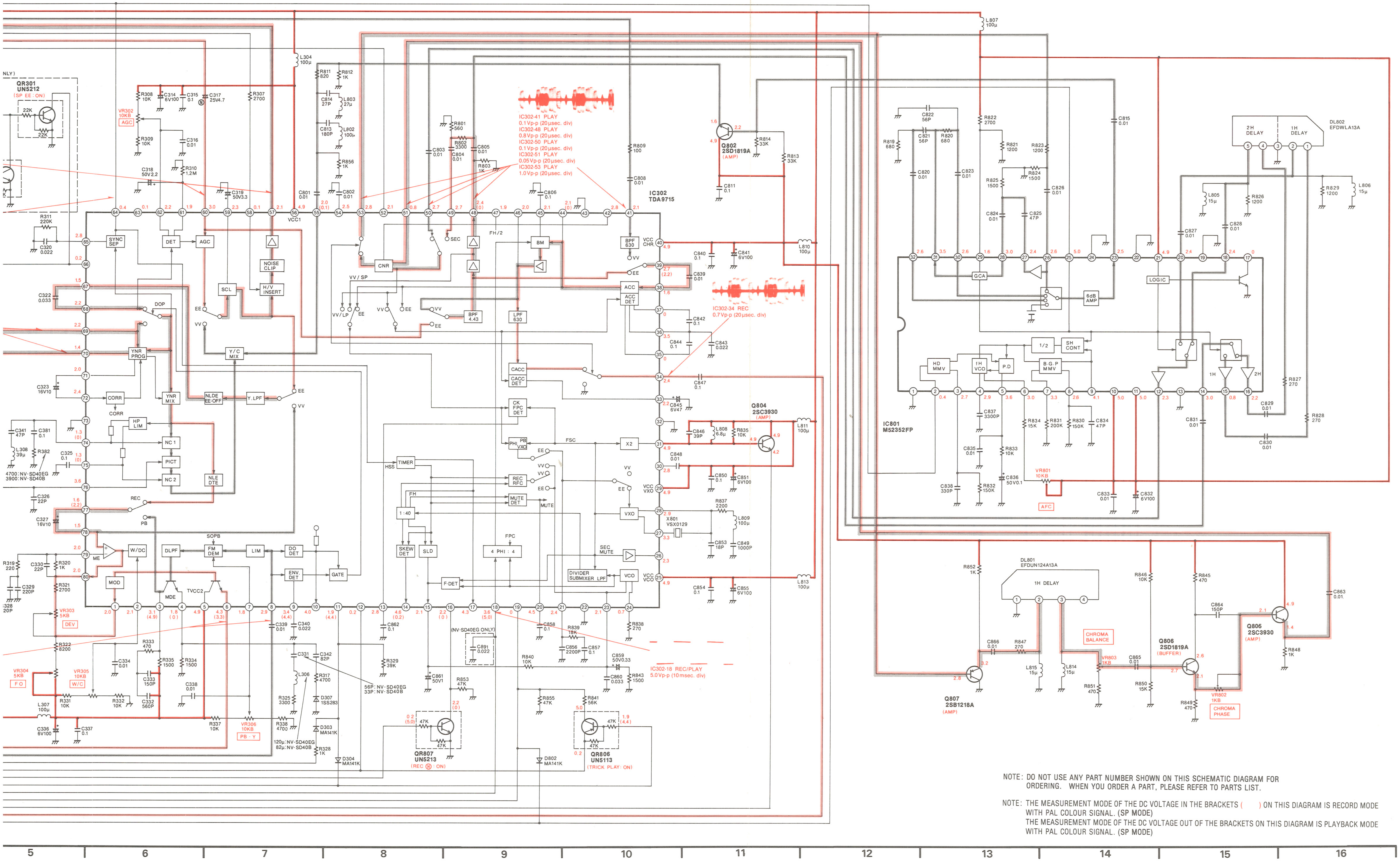
4-6. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM (NV-SD40EG/B)


MAIN SIGNAL PATH IN
PS301
VIDEO OUT
GND
VIDEO IN
VSS
REC Y
V. NON SW 5V
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3001 (Page: 4-13/A-2)
IC302-57 REC/PLAY 2.0Vp-p (20μsec. div)
IC302-60 REC 1.0Vp-p (20μsec. div)
IC302-64 REC/PLAY 5.0Vp-p (20μsec. div)
IC302-69, 70 REC/PLAY 0.4Vp-p (20μsec. div)
PS302
NTSC Ⓛ
EDIT Ⓗ
GND
V. EE Ⓗ
ART V/H/N
PICTURE CTL
RF Y
ROTARY SW
E. REC 5V
LP Ⓗ
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3002 (Page: 4-13/B-2)
IC302-6 REC 1.0Vp-p (50μsec. div)
IC302-8 PLAY 0.3Vp-p (50μsec. div)
PS303
REC Ⓗ
GND
MESECAM Ⓗ
RF CHROMA
TRICK Ⓛ
REC CHROMA
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3003 (Page: 4-13/C-2)
QR804 UN5113 (NTSC Ⓛ: ON)
(NV-SD40B ONLY)
QR301 UN5212 (SP EE: ON)
QR302 UN5212 (LP Ⓗ: ON)
(NV-SD40EG ONLY)
QR801 UN5213 (NTSC: ON)
(NV-SD40B ONLY)
D381 MA165
D301 MA141K
VR301 1KB Y. BALANCE
VR302 10KB AGC
Q302 2SB1218A (INV.)
Q301 2SC3930 (BUFFER)
IC301 MSM7403MS
AMP
CCD
CLAMP
LIMITER
4700: NV-SD40EG 3900: NV-SD40B
VR303 5KB DEV
VR304 5KB FO
VR305 10KB W/C
VR306 10KB PB · Y
120μ: NV-SD40EG 82μ: NV-SD40B
56P: NV-SD40EG 33P: NV-SD40B
SYNC SEP
DET
AGC
SCL
NOISE CLIP
H/V INSERT
DOP
YNR PROG
Y/C MIX
CORR
YNR MIX
NLE EE·OFF
Y. LPF
HP LIM
NC 1
PICT
NC 2
NLE DTE
REC
PB
ME
W/DC
DLPF
FM DEM
LIM
DO DET
ENV. DET
GATE
MOD
MDE
TVCC2
SOPB
CNR
SEC
VV/SP
VV/LP
EE
VV
BPF 4.43
LPF 630
BM
FH/2
BPF 630
VCC CHR.
ACC
ACC DET
CACC
CACC DET
CK FPC DET
PB VXO
FSC
X2
REC RFC
MUTE DET
MUTE
TIMER
HSS
FH
1:40
SKEW DET
SLD
FPC
4 PHI : 4
F-DET
SEC MUTE
DIVIDER SUBMIXER LPF
VCO
VXO
VCC VXO
VCC VCO
X801 VSX0129
IC302 TDA9715
IC302-41 PLAY 0.1Vp-p (20μsec. div)
IC302-48 PLAY 0.8Vp-p (20μsec. div)
IC302-50 PLAY 0.1Vp-p (20μsec. div)
IC302-51 PLAY 0.05Vp-p (20μsec. div)
IC302-53 PLAY 1.0Vp-p (20μsec. div)
IC302-34 REC 0.7Vp-p (20μsec. div)
IC302-18 REC/PLAY 5.0Vp-p (10msec. div)
Q802 2SD1819A (AMP)
Q804 2SC3930 (AMP)
QR807 UN5213 (REC Ⓗ: ON)
QR806 UN5113 (TRICK PLAY: ON)
(NV-SD40EG ONLY)
D802 MA141K
D303 MA141K
D304 MA141K
D307 1SS283
D310 MA141K
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

IAGRAM (NV-SD40EG/B)

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE

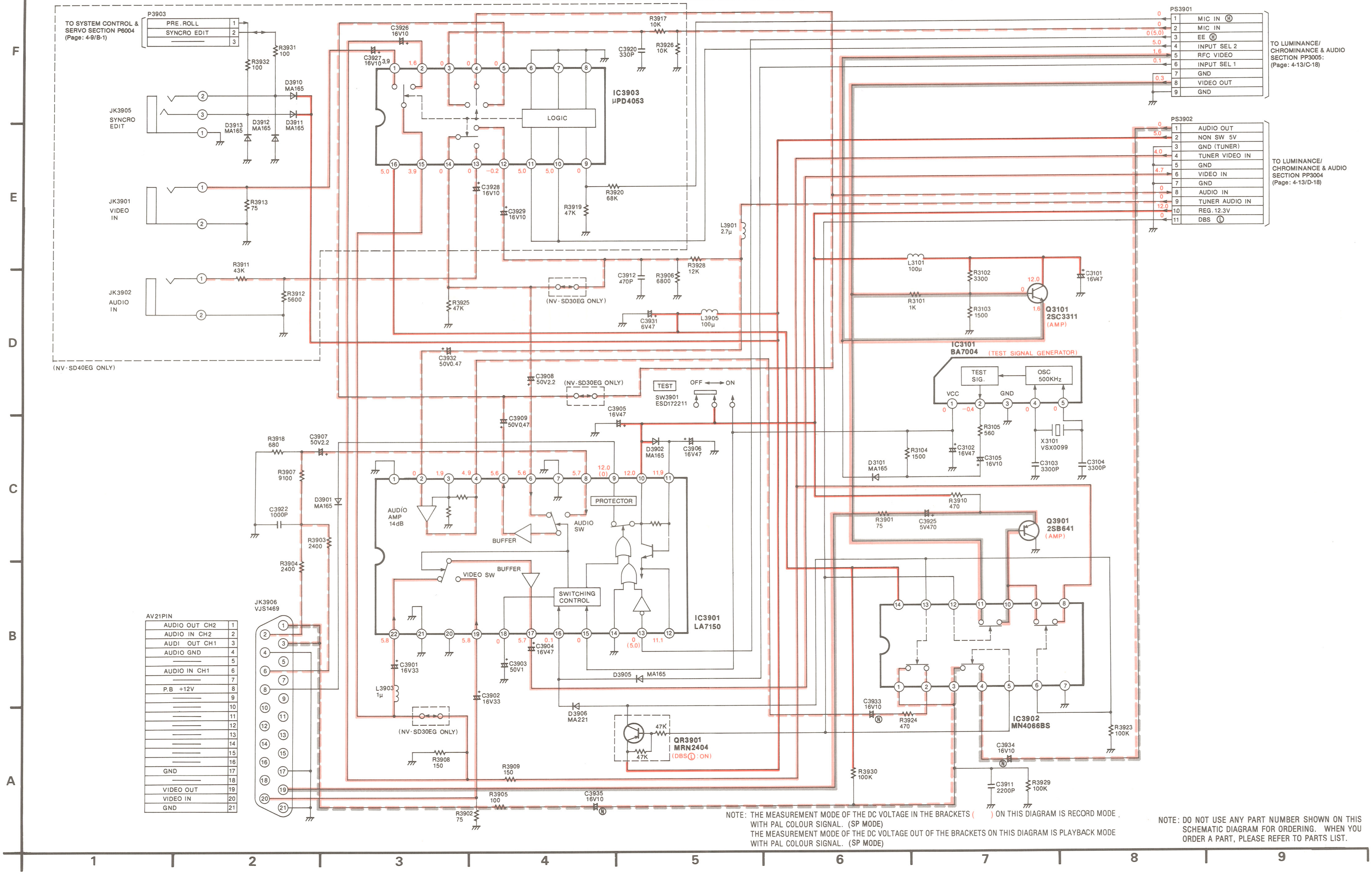

QR301
UN5212
(SP EE: ON)
VR302 10KB AGC
VR303 5KB DEV
VR304 5KB FO
VR305 10KB W/C
VR306 10KB PB · Y
IC302
TDA9715
IC302-41 PLAY 0.1Vp-p (20μsec. div)
IC302-48 PLAY 0.8Vp-p (20μsec. div)
IC302-50 PLAY 0.1Vp-p (20μsec. div)
IC302-51 PLAY 0.05Vp-p (20μsec. div)
IC302-53 PLAY 1.0Vp-p (20μsec. div)
IC302-34 REC 0.7Vp-p (20μsec. div)
IC302-18 REC/PLAY 5.0Vp-p (10msec. div)
SYNC SEP
DET
AGC
NOISE CLIP
H/V INSERT
SCL
CNR
BM
BPF 630
ACC
ACC DET
LPF 630
BPF 4.43
CACC
CACC DET
CK FPC DET
PB VXO
X2
REC RFC
MUTE DET
VXO
TIMER
SKEW DET
SLD
4 PHI : 4
F-DET
DIVIDER SUBMIXER LPF
SEC MUTE
YNR PROG
YNR MIX
CORR
HP LIM
NC 1
PICT
NC 2
NLE DTE
NLDE EE·OFF
Y. LPF
Y/C MIX
W/DC
DLPF
FM DEM
LIM
DO DET
ENV. DET
GATE
MOD
MDE
TVCC2
VCC1
DOP
Q802 2SD1819A (AMP)
Q804 2SC3930 (AMP)
Q805 2SC3930 (AMP)
Q806 2SD1819A (BUFFER)
Q807 2SB1218A (AMP)
QR807 UN5213 (REC Ⓗ : ON)
QR806 UN5113 (TRICK PLAY : ON)
IC801 M52352FP
DL802 EFDWLA13A
2H DELAY
1H DELAY
DL801 EFDUN124A13A
1H DELAY
GCA
LOGIC
6dB AMP
HD MMV
1H VCO
P.D
B.G.P MMV
1/2
SH CONT
VR801 10KB AFC
VR802 1KB CHROMA PHASE
VR803 1KB CHROMA BALANCE
X801 VSX0129
D304 MA141K
D802 MA141K
D303 MA141K
D307 1SS283
(NV-SD40EG ONLY)
56P: NV-SD40EG
33P: NV-SD40B
120μ: NV-SD40EG
82μ: NV-SD40B
4700: NV-SD40EG
3900: NV-SD40B
5
6
7
8
9
10
11
12
13
14
15
16

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

4-7. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM (NV-SD30EG, SD40EG)

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

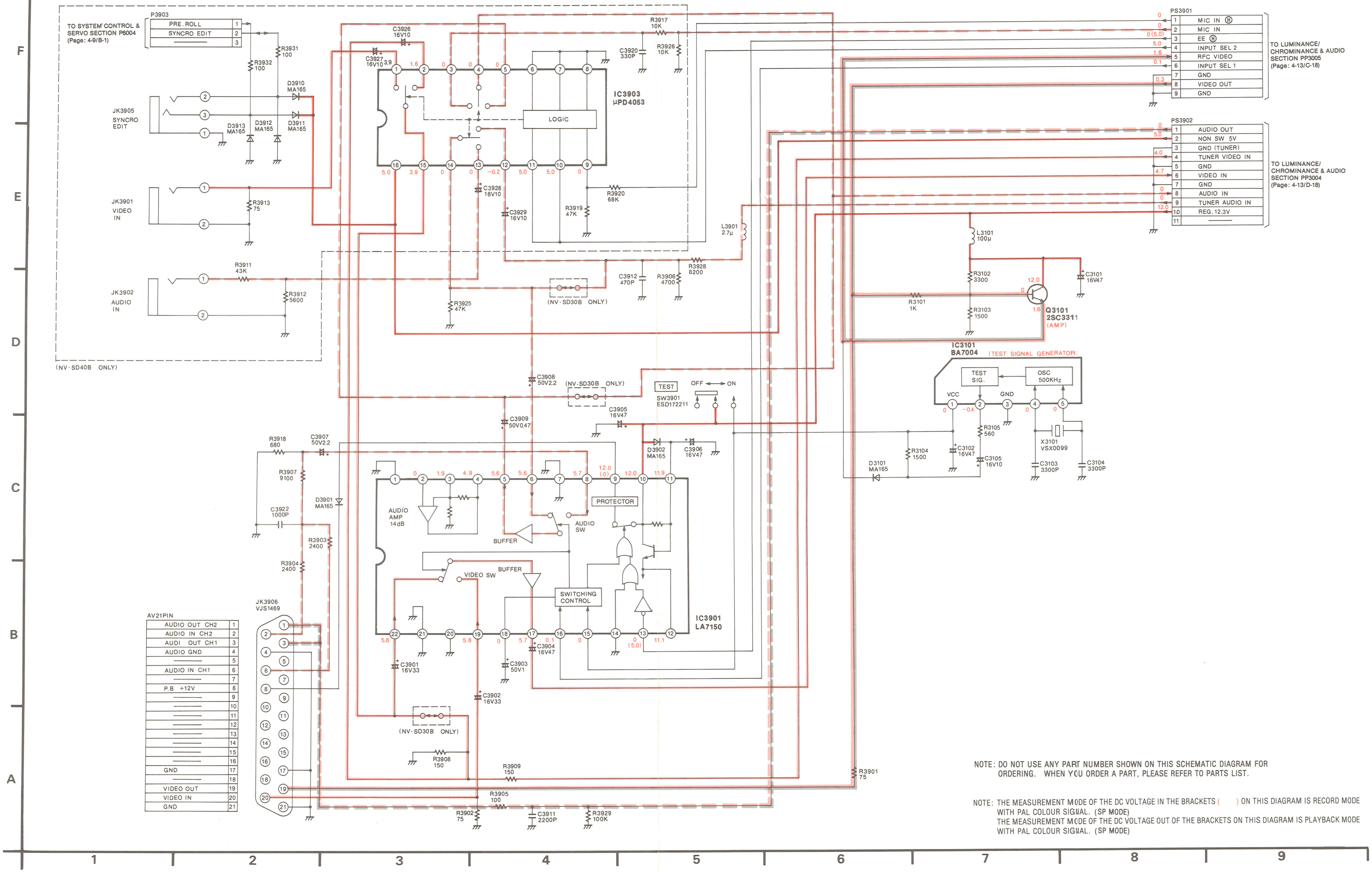

P3903
TO SYSTEM CONTROL & SERVO SECTION P6004 (Page: 4-9/B-1)
PRE. ROLL
SYNCRO EDIT
JK3905 SYNCRO EDIT
JK3901 VIDEO IN
JK3902 AUDIO IN
(NV-SD40EG ONLY)
IC3903 μPD4053
LOGIC
(NV-SD30EG ONLY)
IC3101 BA7004 (TEST SIGNAL GENERATOR)
TEST SIG.
OSC 500KHz
VCC
GND
X3101 VSX0099
Q3101 2SC3311 (AMP)
Q3901 2SB641 (AMP)
TEST
OFF ←→ ON
SW3901 ESD172211
IC3901 LA7150
AUDIO AMP 14dB
BUFFER
AUDIO SW
PROTECTOR
VIDEO SW
SWITCHING CONTROL
QR3901 MRN2404 (DBS Ⓛ : ON)
IC3902 MN4066BS
JK3906 VJS1469
AV21PIN
AUDIO OUT CH2
AUDIO IN CH2
AUDI OUT CH1
AUDIO GND
AUDIO IN CH1
P.B +12V
GND
VIDEO OUT
VIDEO IN
GND
PS3901
MIC IN Ⓗ
MIC IN
EE Ⓗ
INPUT SEL 2
RFC VIDEO
INPUT SEL 1
GND
VIDEO OUT
GND
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3005: (Page: 4-13/C-18)
PS3902
AUDIO OUT
NON SW 5V
GND (TUNER)
TUNER VIDEO IN
GND
VIDEO IN
GND
AUDIO IN
TUNER AUDIO IN
REG. 12.3V
DBS Ⓛ
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3004 (Page: 4-13/D-18)
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-8. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM (NV-SD30B, SD40B)

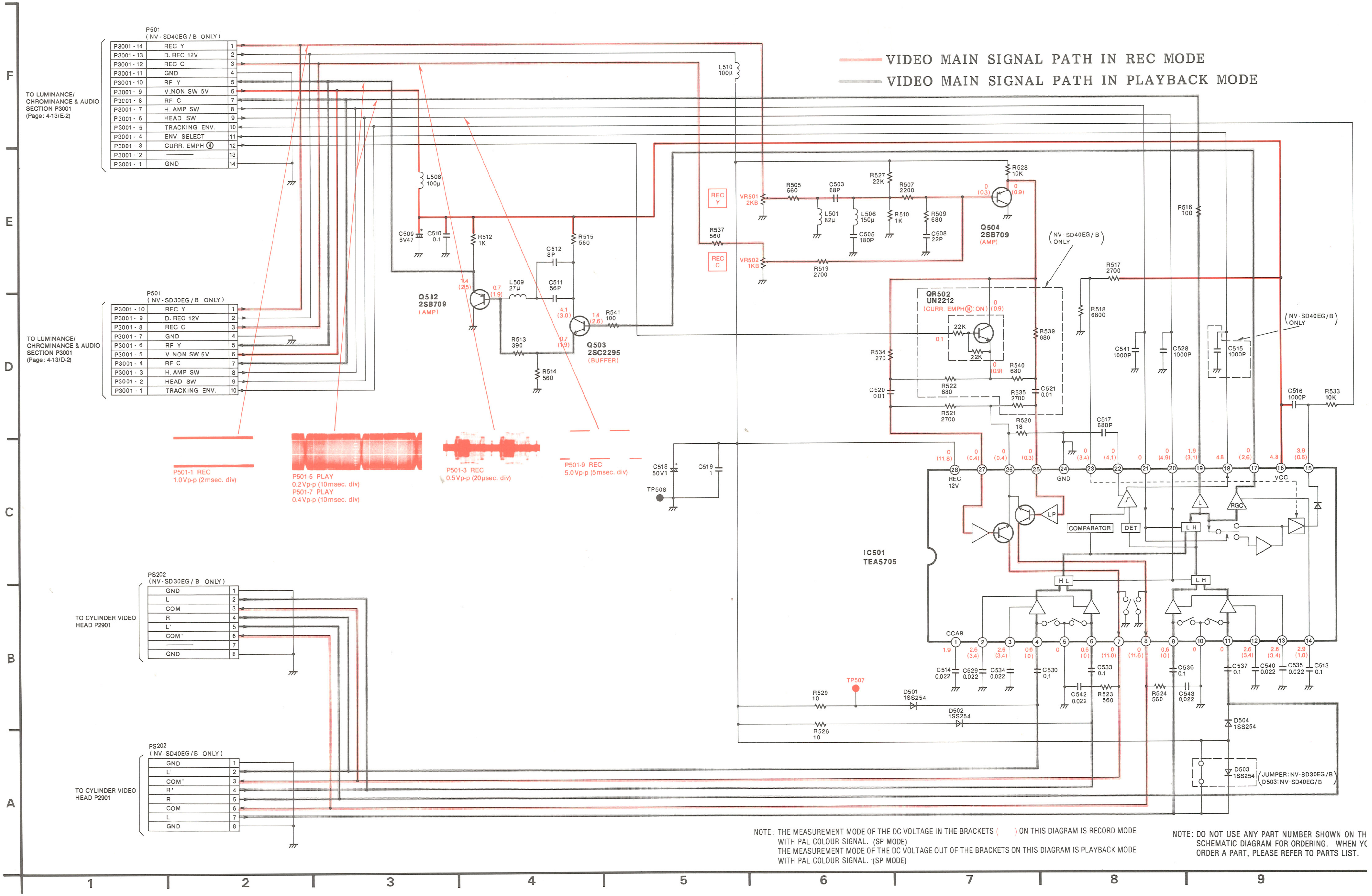
— VIDEO MAIN SIGNAL PATH IN REC MODE
— VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
– – AUDIO MAIN SIGNAL PATH IN REC MODE
– – AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
P3903
TO SYSTEM CONTROL & SERVO SECTION P6004 (Page: 4-9/B-1)
PRE. ROLL
SYNCRO EDIT
R3931 100
R3932 100
D3910 MA165
D3911 MA165
D3912 MA165
D3913 MA165
JK3905 SYNCRO EDIT
JK3901 VIDEO IN
R3913 75
JK3902 AUDIO IN
R3911 43K
R3912 5600
(NV-SD40B ONLY)
C3926 16V10
C3927 16V10
IC3903 μPD4053
LOGIC
C3928 16V10
C3929 16V10
R3917 10K
R3926 10K
C3920 330P
R3919 47K
R3920 68K
L3901 2.7μ
R3928 8200
C3912 470P
R3906 4700
R3925 47K
(NV-SD30B ONLY)
PS3901
MIC IN Ⓗ
MIC IN
EE Ⓗ
INPUT SEL 2
RFC VIDEO
INPUT SEL 1
GND
VIDEO OUT
GND
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3005 (Page: 4-13/C-18)
PS3902
AUDIO OUT
NON SW 5V
GND (TUNER)
TUNER VIDEO IN
GND
VIDEO IN
GND
AUDIO IN
TUNER AUDIO IN
REG. 12.3V
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP3004 (Page: 4-13/D-18)
L3101 100μ
R3102 3300
R3101 1K
R3103 1500
C3101 16V47
Q3101 2SC3311 (AMP)
IC3101 BA7004 (TEST SIGNAL GENERATOR)
TEST SIG.
OSC 500KHz
VCC
GND
R3105 560
R3104 1500
C3102 16V47
C3105 16V10
X3101 VSX0099
C3103 3300P
C3104 3300P
D3101 MA165
C3908 50V2.2
(NV-SD30B ONLY)
TEST
OFF ◄► ON
SW3901 ESD172211
C3905 16V47
C3909 50V0.47
D3902 MA165
C3906 16V47
R3918 680
C3907 50V2.2
R3907 9100
D3901 MA165
C3922 1000P
R3903 2400
R3904 2400
AUDIO AMP 14dB
BUFFER
AUDIO SW
PROTECTOR
VIDEO SW
BUFFER
SWITCHING CONTROL
IC3901 LA7150
C3901 16V33
C3903 50V1
C3904 16V47
C3902 16V33
(NV-SD30B ONLY)
R3908 150
R3909 150
R3905 100
R3902 75
C3911 2200P
R3929 100K
R3901 75
JK3906 VJS1469
AV21PIN
AUDIO OUT CH2
AUDIO IN CH2
AUDI OUT CH1
AUDIO GND
AUDIO IN CH1
P.B +12V
GND
VIDEO OUT
VIDEO IN
GND

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

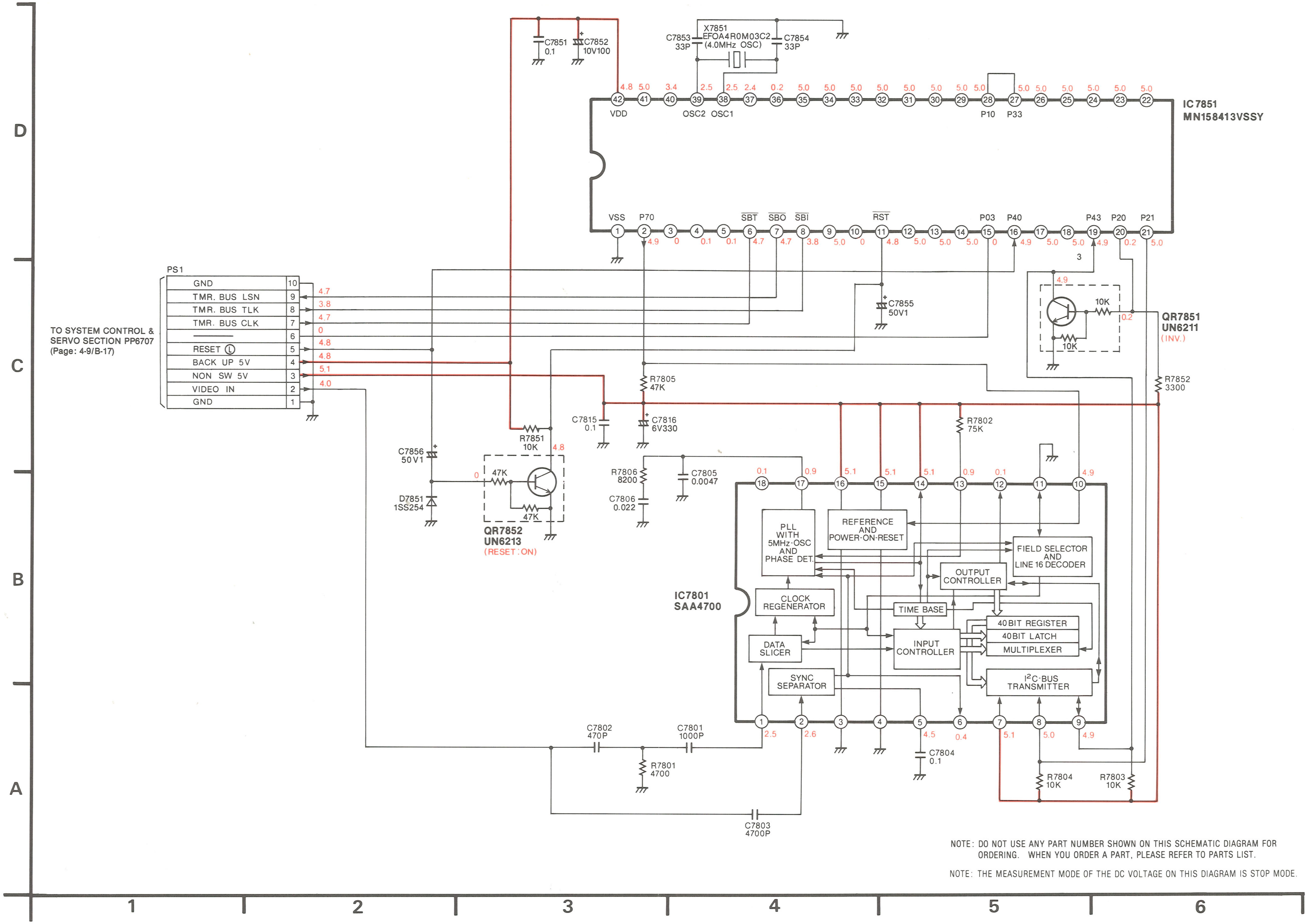
4-9. HEAD AMP SCHEMATIC DIAGRAM


VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION P3001 (Page: 4-13/E-2)
P501 (NV·SD40EG/B ONLY)
P3001·14 REC Y 1
P3001·13 D. REC 12V 2
P3001·12 REC C 3
P3001·11 GND 4
P3001·10 RF Y 5
P3001·9 V.NON SW 5V 6
P3001·8 RF C 7
P3001·7 H. AMP SW 8
P3001·6 HEAD SW 9
P3001·5 TRACKING ENV. 10
P3001·4 ENV. SELECT 11
P3001·3 CURR. EMPH Ⓗ 12
P3001·2 —— 13
P3001·1 GND 14
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION P3001 (Page: 4-13/D-2)
P501 (NV·SD30EG/B ONLY)
P3001·10 REC Y 1
P3001·9 D. REC 12V 2
P3001·8 REC C 3
P3001·7 GND 4
P3001·6 RF Y 5
P3001·5 V. NON SW 5V 6
P3001·4 RF C 7
P3001·3 H. AMP SW 8
P3001·2 HEAD SW 9
P3001·1 TRACKING ENV. 10
TO CYLINDER VIDEO HEAD P2901
PS202 (NV·SD30EG/B ONLY)
GND 1
L 2
COM 3
R 4
L' 5
COM' 6
—— 7
GND 8
TO CYLINDER VIDEO HEAD P2901
PS202 (NV·SD40EG/B ONLY)
GND 1
L' 2
COM' 3
R' 4
R 5
COM 6
L 7
GND 8
L510 100μ
L508 100μ
C509 6V47
C510 0.1
R512 1K
C512 8P
R515 560
Q502 2SB709 (AMP)
L509 27μ
C511 56P
R513 390
R514 560
R541 100
Q503 2SC2295 (BUFFER)
REC Y
VR501 2KB
R505 560
C503 68P
R527 22K
R507 2200
R528 10K
L501 82μ
L506 150μ
C505 180P
R510 1K
R509 680
C508 22P
Q504 2SB709 (AMP)
R537 560
REC C
VR502 1KB
R519 2700
(NV·SD40EG/B ONLY)
R516 100
R517 2700
R518 6800
QR502 UN2212 (CURR. EMPH Ⓗ:ON)
22K
22K
R539 680
R534 270
R540 680
R522 680
R535 2700
C520 0.01
C521 0.01
R521 2700
R520 18
C517 680P
C541 1000P
C528 1000P
C515 1000P
(NV·SD40EG/B ONLY)
C516 1000P
R533 10K
C518 50V1
C519 1
TP508
P501-1 REC 1.0Vp-p (2msec. div)
P501-5 PLAY 0.2Vp-p (10msec. div)
P501-7 PLAY 0.4Vp-p (10msec. div)
P501-3 REC 0.5Vp-p (20μsec. div)
P501-9 REC 5.0Vp-p (5msec. div)
REC 12V
GND
VCC
LP
COMPARATOR
DET
L H
AGC
IC501 TEA5705
H L
L H
CCA9
C514 0.022
C529 0.022
C534 0.022
C530 0.1
C533 0.1
C542 0.022
R523 560
R524 560
C543 0.022
C536 0.1
C537 0.1
C540 0.022
C535 0.022
C513 0.1
TP507
R529 10
D501 1SS254
D502 1SS254
R526 10
D504 1SS254
D503 1SS254
(JUMPER: NV-SD30EG/B D503: NV-SD40EG/B)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON TH SCHEMATIC DIAGRAM FOR ORDERING. WHEN YC ORDER A PART, PLEASE REFER TO PARTS LIST.

4-10. VPS PACK SCHEMATIC DIAGRAM

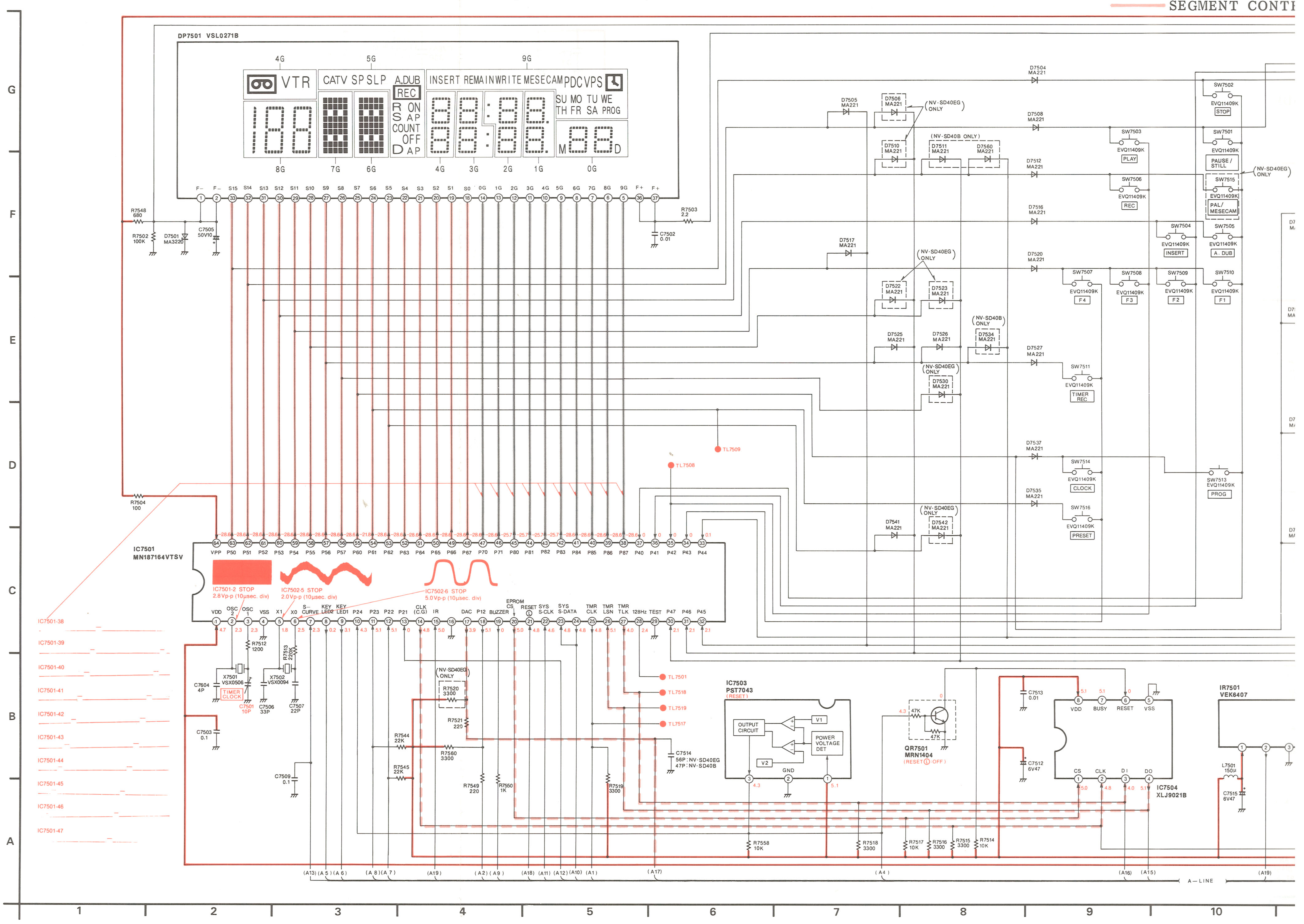


IC7851
MN158413VSSY
VDD
OSC2
OSC1
P10
P33
VSS
P70
SBT
SBO
SBI
RST
P03
P40
P43
P20
P21
X7851
EFOA4R0M03C2
(4.0MHz OSC)
C7853
33P
C7854
33P
C7851
0.1
C7852
10V100
C7855
50V1
QR7851
UN6211
(INV.)
10K
10K
R7852
3300
PS1
GND
TMR. BUS LSN
TMR. BUS TLK
TMR. BUS CLK
RESET Ⓛ
BACK UP 5V
NON SW 5V
VIDEO IN
GND
TO SYSTEM CONTROL &
SERVO SECTION PP6707
(Page: 4-9/B-17)
R7805
47K
C7815
0.1
C7816
6V330
R7851
10K
C7856
50V1
D7851
1SS254
47K
47K
QR7852
UN6213
(RESET : ON)
R7802
75K
R7806
8200
C7806
0.022
C7805
0.0047
IC7801
SAA4700
PLL
WITH
5MHz-OSC
AND
PHASE DET.
REFERENCE
AND
POWER-ON-RESET
FIELD SELECTOR
AND
LINE 16 DECODER
OUTPUT
CONTROLLER
CLOCK
REGENERATOR
TIME BASE
40 BIT REGISTER
40 BIT LATCH
MULTIPLEXER
DATA
SLICER
INPUT
CONTROLLER
SYNC
SEPARATOR
I²C-BUS
TRANSMITTER
C7802
470P
C7801
1000P
R7801
4700
C7803
4700P
C7804
0.1
R7804
10K
R7803
10K
A
B
C
D
1
2
3
4
5
6

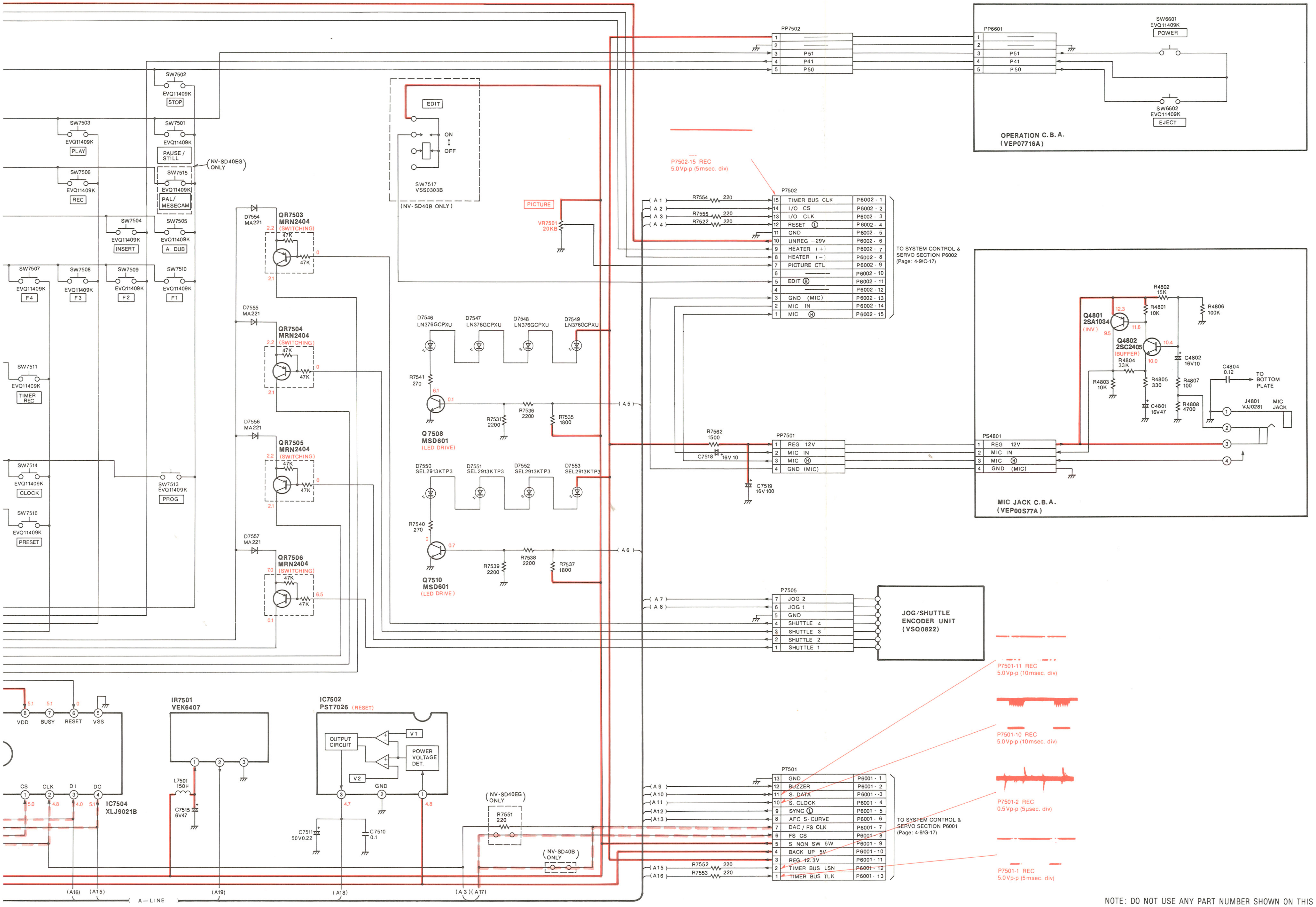
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

4-11. TIMER & OPERATION SCHEMATIC DIAGRAM (NV-SD40EG/B)


SEGMENT CONTR
DP7501 VSL0271B
VTR
CATV SP SLP A.DUB REC
INSERT REMAIN WRITE MESECAM PDC VPS
SU MO TU WE TH FR SA PROG
4G 5G 9G 8G 7G 6G 4G 3G 2G 1G 0G
R7548 680
R7502 100K
D7501 MA3220
C7505 50V10
R7503 2.2
C7502 0.01
R7504 100
IC7501 MN187164VTSV
IC7501-2 STOP 2.8Vp-p (10μsec. div)
IC7501-5 STOP 2.0Vp-p (10μsec. div)
IC7502-6 STOP 5.0Vp-p (10μsec. div)
X7501 VSX0506
X7502 VSX0094
C7604 4P
TIMER CLOCK
C7501 10P
C7506 33P
C7507 22P
R7512 1200
R7513 220K
C7503 0.1
C7509 0.1
R7544 22K
R7545 22K
R7560 3300
R7520 3300
R7521 220
R7549 220
R7550 1K
R7519 3300
(NV-SD40EG) ONLY
TL7501
TL7518
TL7519
TL7517
TL7508
TL7509
IC7503 PST7043 (RESET)
OUTPUT CIRCUIT
POWER VOLTAGE DET
V1
V2
GND
C7514 56P: NV-SD40EG 47P: NV-SD40B
QR7501 MRN1404 (RESET① OFF)
47K
C7513 0.01
C7512 6V47
VDD BUSY RESET VSS
CS CLK DI DO
IC7504 XLJ9021B
IR7501 VEK6407
L7501 150μ
C7515 6V47
R7558 10K
R7518 3300
R7517 10K
R7516 3300
R7515 3300
R7514 10K
SW7502 EVQ11409K STOP
SW7501 EVQ11409K PAUSE / STILL
SW7503 EVQ11409K PLAY
SW7506 EVQ11409K REC
SW7515 EVQ11409K PAL/ MESECAM
SW7504 EVQ11409K INSERT
SW7505 EVQ11409K A. DUB
SW7507 EVQ11409K F4
SW7508 EVQ11409K F3
SW7509 EVQ11409K F2
SW7510 EVQ11409K F1
SW7511 EVQ11409K TIMER REC
SW7514 EVQ11409K CLOCK
SW7513 EVQ11409K PROG
SW7516 EVQ11409K PRESET
D7504 MA221
D7505 MA221
D7506 MA221
D7508 MA221
D7510 MA221
D7511 MA221
D7560 MA221
D7512 MA221
D7516 MA221
D7517 MA221
D7520 MA221
D7522 MA221
D7523 MA221
D7525 MA221
D7526 MA221
D7534 MA221
D7527 MA221
D7530 MA221
D7537 MA221
D7535 MA221
D7541 MA221
D7542 MA221
(NV-SD40B ONLY)
IC7501-38
IC7501-39
IC7501-40
IC7501-41
IC7501-42
IC7501-43
IC7501-44
IC7501-45
IC7501-46
IC7501-47
A—LINE
G F E D C B A
1 2 3 4 5 6 7 8 9 10

SEGMENT CONTROL SIGNAL　GRID CONTROL SIGNAL　TUNE CONTROL SIGNAL


SW7502 EVQ11409K STOP
SW7503 EVQ11409K PLAY
SW7501 EVQ11409K PAUSE / STILL
SW7506 EVQ11409K REC
SW7515 EVQ11409K PAL/MESECAM
(NV-SD40EG ONLY)
SW7504 EVQ11409K INSERT
SW7505 EVQ11409K A. DUB
SW7507 EVQ11409K F4
SW7508 EVQ11409K F3
SW7509 EVQ11409K F2
SW7510 EVQ11409K F1
SW7511 EVQ11409K TIMER REC
SW7514 EVQ11409K CLOCK
SW7513 EVQ11409K PROG
SW7516 EVQ11409K PRESET
D7554 MA221
QR7503 MRN2404 (SWITCHING)
D7555 MA221
QR7504 MRN2404 (SWITCHING)
D7556 MA221
QR7505 MRN2404 (SWITCHING)
D7557 MA221
QR7506 MRN2404 (SWITCHING)
47K
EDIT
ON
OFF
SW7517 VSS0303B
(NV-SD40B ONLY)
PICTURE
VR7501 20KB
D7546 LN376GCPXU
D7547 LN376GCPXU
D7548 LN376GCPXU
D7549 LN376GCPXU
R7541 270
Q7508 MSD601 (LED DRIVE)
R7531 2200
R7536 2200
R7535 1800
D7550 SEL2913KTP3
D7551 SEL2913KTP3
D7552 SEL2913KTP3
D7553 SEL2913KTP3
R7540 270
Q7510 MSD601 (LED DRIVE)
R7539 2200
R7538 2200
R7537 1800
PP7502
P51
P41
P50
PP6601
SW6601 EVQ11409K POWER
SW6602 EVQ11409K EJECT
OPERATION C.B.A. (VEP07716A)
P7502-15 REC 5.0Vp-p (5msec. div)
P7502
R7554 220
R7555 220
R7522 220
TIMER BUS CLK
I/O CS
I/O CLK
RESET
GND
UNREG −29V
HEATER (+)
HEATER (−)
PICTURE CTL
EDIT
GND (MIC)
MIC IN
MIC
P6002 - 1 … P6002 - 15
TO SYSTEM CONTROL & SERVO SECTION P6002 (Page: 4-9/C-17)
R4802 15K
Q4801 2SA1034 (INV.)
R4801 10K
R4806 100K
Q4802 2SC2405 (BUFFER)
R4804 33K
C4802 16V10
C4804 0.12
TO BOTTOM PLATE
R4803 10K
R4805 330
R4807 100
C4801 16V47
R4808 4700
J4801 VJJ0281
MIC JACK
PS4801
REG 12V
MIC IN
MIC
GND (MIC)
MIC JACK C.B.A. (VEP00S77A)
R7562 1500
C7518 16V 10
PP7501
C7519 16V 100
P7505
JOG 2
JOG 1
GND
SHUTTLE 4
SHUTTLE 3
SHUTTLE 2
SHUTTLE 1
JOG/SHUTTLE ENCODER UNIT (VSQ0822)
P7501-11 REC 5.0Vp-p (10msec. div)
P7501-10 REC 5.0Vp-p (10msec. div)
P7501-2 REC 0.5Vp-p (5μsec. div)
P7501-1 REC 5.0Vp-p (5msec. div)
VDD BUSY RESET VSS
IR7501 VEK6407
IC7502 PST7026 (RESET)
OUTPUT CIRCUIT
POWER VOLTAGE DET.
V1
V2
GND
CS CLK DI DO
IC7504 XLJ9021B
L7501 150μ
C7515 6V47
C7511 50V0.22
C7510 0.1
(NV-SD40EG ONLY)
R7551 220
(NV-SD40B ONLY)
P7501
GND
BUZZER
S. DATA
S. CLOCK
SYNC
AFC S-CURVE
DAC / FS CLK
FS CS
S NON SW 5W
BACK UP 5V
REG 12.3V
TIMER BUS LSN
TIMER BUS TLK
P6001 - 1 … P6001 - 13
TO SYSTEM CONTROL & SERVO SECTION P6001 (Page: 4-9/G-17)
R7552 220
R7553 220
(A16) (A15) A—LINE (A19) (A18) (A3)(A17)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

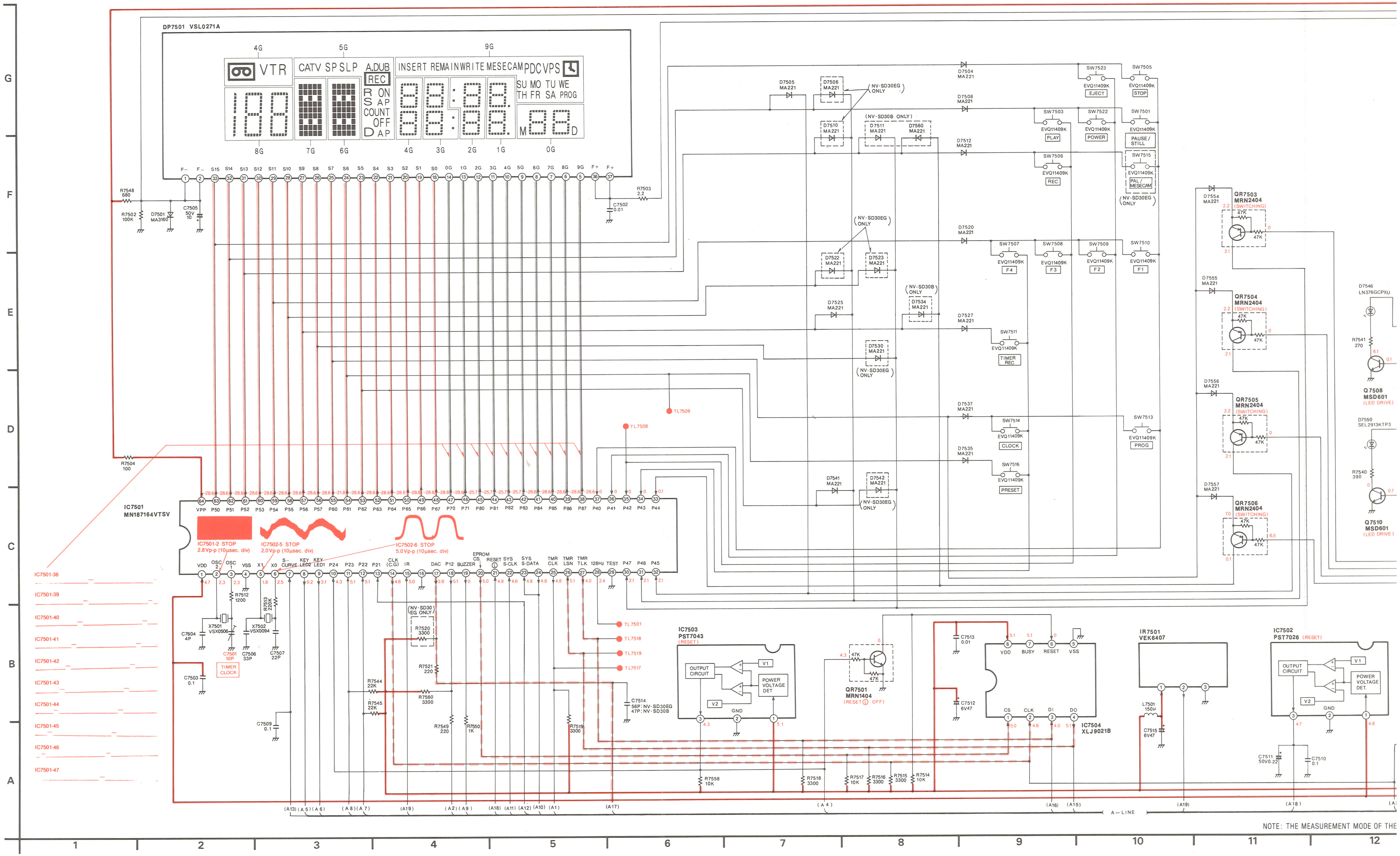
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

9　10　11　12　13　14　15　16　17　18

4-12. TIMER SCHEMATIC DIAGRAM (NV-SD30EG/B)

SEGMENT CONTROL SIGNAL

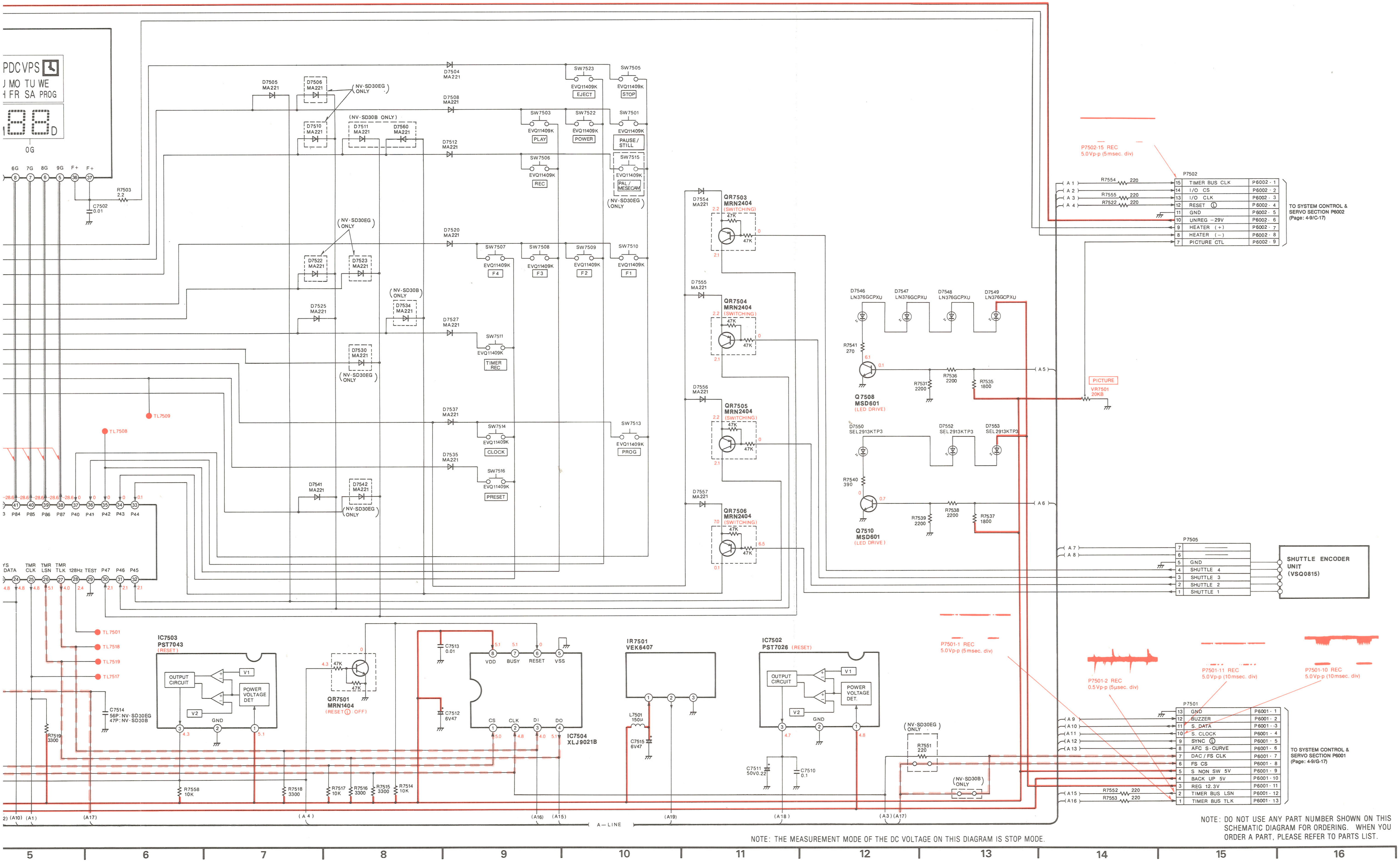
GRID CONTROL SIGNAL



DP7501 VSL0271A
VTR
CATV SP SLP A.DUB REC
INSERT REMAIN WRITE MESECAM PDC VPS
SU MO TU WE TH FR SA PROG
R ON S AP COUNT OFF D AP
IC7501 MN187164VTSV
IC7501-2 STOP 2.8Vp-p (10μsec. div)
IC7502-5 STOP 2.0Vp-p (10μsec. div)
IC7502-6 STOP 5.0Vp-p (10μsec. div)
IC7503 PST7043 (RESET)
IC7502 PST7026 (RESET)
IC7504 XLJ9021B
IR7501 VEK6407
QR7501 MRN1404 (RESET ⓛ : OFF)
QR7503 MRN2404 (SWITCHING)
QR7504 MRN2404 (SWITCHING)
QR7505 MRN2404 (SWITCHING)
QR7506 MRN2404 (SWITCHING)
Q7508 MSD601 (LED DRIVE)
Q7510 MSD601 (LED DRIVE)
D7546 LN376GCPXU
D7550 SEL2913KTP3
SW7523 EVQ11409K EJECT
SW7505 EVQ11409K STOP
SW7503 EVQ11409K PLAY
SW7522 EVQ11409K POWER
SW7501 EVQ11409K PAUSE / STILL
SW7506 EVQ11409K REC
SW7515 EVQ11409K PAL / MESECAM
SW7507 EVQ11409K F4
SW7508 EVQ11409K F3
SW7509 EVQ11409K F2
SW7510 EVQ11409K F1
SW7511 EVQ11409K TIMER REC
SW7514 EVQ11409K CLOCK
SW7513 EVQ11409K PROG
SW7516 EVQ11409K PRESET
(NV-SD30EG ONLY)
(NV-SD30B ONLY)
X7501 VSX0506
X7502 VSX0094
TIMER CLOCK
TL7501 TL7508 TL7509 TL7517 TL7518 TL7519
OUTPUT CIRCUIT
POWER VOLTAGE DET
VDD BUSY RESET VSS CS CLK DI DO
A-LINE
IC7501-38 IC7501-39 IC7501-40 IC7501-41 IC7501-42 IC7501-43 IC7501-44 IC7501-45 IC7501-46 IC7501-47
G F E D C B A
1 2 3 4 5 6 7 8 9 10 11 12

NOTE: THE MEASUREMENT MODE OF THE

SEGMENT CONTROL SIGNAL   GRID CONTROL SIGNAL   TUNE CONTROL SIGNAL

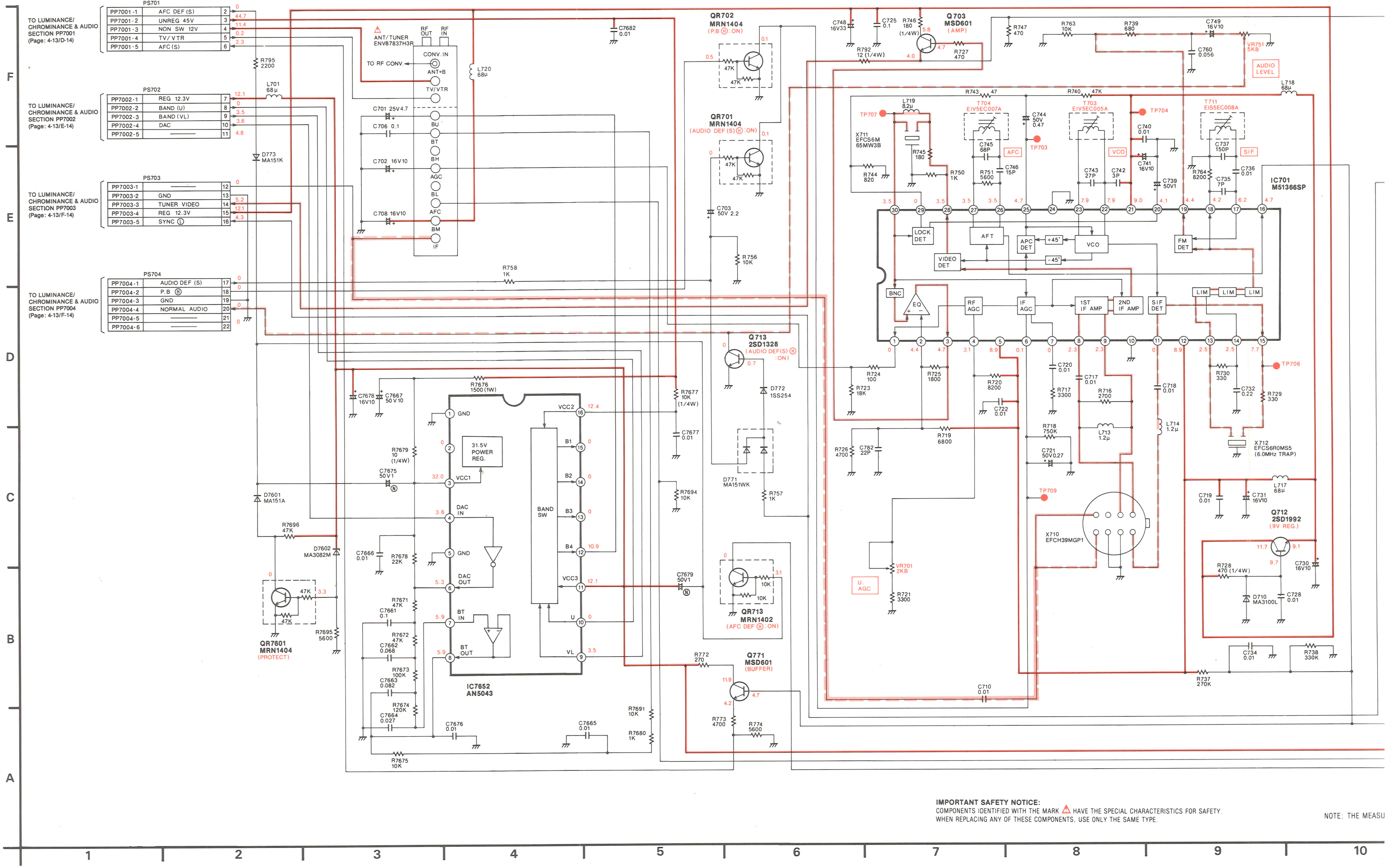

PDC VPS
MO TU WE
FR SA PROG
0G
6G 7G 8G 9G F+ F+
R7503 2.2
C7502 0.01
P84 P85 P86 P87 P40 P41 P42 P43 P44
DATA TMR CLK TMR LSN TMR TLK 128Hz TEST P47 P46 P45
D7504 MA221
D7505 MA221
D7506 MA221
NV-SD30EG ONLY
D7508 MA221
(NV-SD30B ONLY)
D7510 MA221
D7511 MA221
D7560 MA221
D7512 MA221
SW7523 EVQ11409K EJECT
SW7505 EVQ11409K STOP
SW7503 EVQ11409K PLAY
SW7522 EVQ11409K POWER
SW7501 EVQ11409K PAUSE/STILL
SW7506 EVQ11409K REC
SW7515 EVQ11409K PAL/MESECAM
D7520 MA221
D7522 MA221
D7523 MA221
SW7507 EVQ11409K F4
SW7508 EVQ11409K F3
SW7509 EVQ11409K F2
SW7510 EVQ11409K F1
D7525 MA221
D7534 MA221
D7527 MA221
SW7511 EVQ11409K TIMER REC
D7530 MA221
TL7509
TL7508
D7537 MA221
SW7514 EVQ11409K CLOCK
SW7513 EVQ11409K PROG
D7535 MA221
SW7516 EVQ11409K PRESET
D7541 MA221
D7542 MA221
D7554 MA221
QR7503 MRN2404 (SWITCHING)
D7555 MA221
QR7504 MRN2404 (SWITCHING)
D7556 MA221
QR7505 MRN2404 (SWITCHING)
D7557 MA221
QR7506 MRN2404 (SWITCHING)
47K
D7546 LN376GCPXU
D7547 LN376GCPXU
D7548 LN376GCPXU
D7549 LN376GCPXU
R7541 270
Q7508 MSD601 (LED DRIVE)
R7531 2200
R7536 2200
R7535 1800
D7550 SEL2913KTP3
D7552 SEL2913KTP3
D7553 SEL2913KTP3
R7540 390
Q7510 MSD601 (LED DRIVE)
R7539 2200
R7538 2200
R7537 1800
PICTURE
VR7501 20KB
P7502-15 REC 5.0Vp-p (5msec. div)
P7502
R7554 220
R7555 220
R7522 220
TIMER BUS CLK
I/O CS
I/O CLK
RESET
GND
UNREG −29V
HEATER (+)
HEATER (−)
PICTURE CTL
P6002-1 … P6002-9
TO SYSTEM CONTROL & SERVO SECTION P6002 (Page: 4-9/C-17)
P7505
SHUTTLE 4
SHUTTLE 3
SHUTTLE 2
SHUTTLE 1
SHUTTLE ENCODER UNIT (VSQ0815)
TL7501
TL7518
TL7519
TL7517
IC7503 PST7043 (RESET)
OUTPUT CIRCUIT
POWER VOLTAGE DET
V1 V2 GND
C7514 56P: NV-SD30EG 47P: NV-SD30B
R7519 3300
QR7501 MRN1404 (RESET ⓛ OFF)
C7513 0.01
C7512 6V47
VDD BUSY RESET VSS
CS CLK DI DO
IC7504 XLJ9021B
IR7501 VEK6407
L7501 150μ
C7515 6V47
IC7502 PST7026 (RESET)
C7511 50V0.22
C7510 0.1
R7551 220
(NV-SD30B ONLY)
R7558 10K
R7518 3300
R7517 10K
R7516 3300
R7515 3300
R7514 10K
P7501-1 REC 5.0Vp-p (5msec. div)
P7501-2 REC 0.5Vp-p (5μsec. div)
P7501-11 REC 5.0Vp-p (10msec. div)
P7501-10 REC 5.0Vp-p (10msec. div)
P7501
GND
BUZZER
S. DATA
S. CLOCK
SYNC
AFC S-CURVE
DAC/FS CLK
FS CS
S NON SW 5V
BACK UP 5V
REG 12.3V
TIMER BUS LSN
TIMER BUS TLK
P6001-1 … P6001-13
R7552 220
R7553 220
TO SYSTEM CONTROL & SERVO SECTION P6001 (Page: 4-9/C-17)
A−LINE
5 6 7 8 9 10 11 12 13 14 15 16

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

4-13. TV DEMODULATOR PACK SCHEMATIC DIAGRAM (NV-SD30B, SD40B)

VIDEO SIGNAL PATH
AUDIO SIGNAL PATH

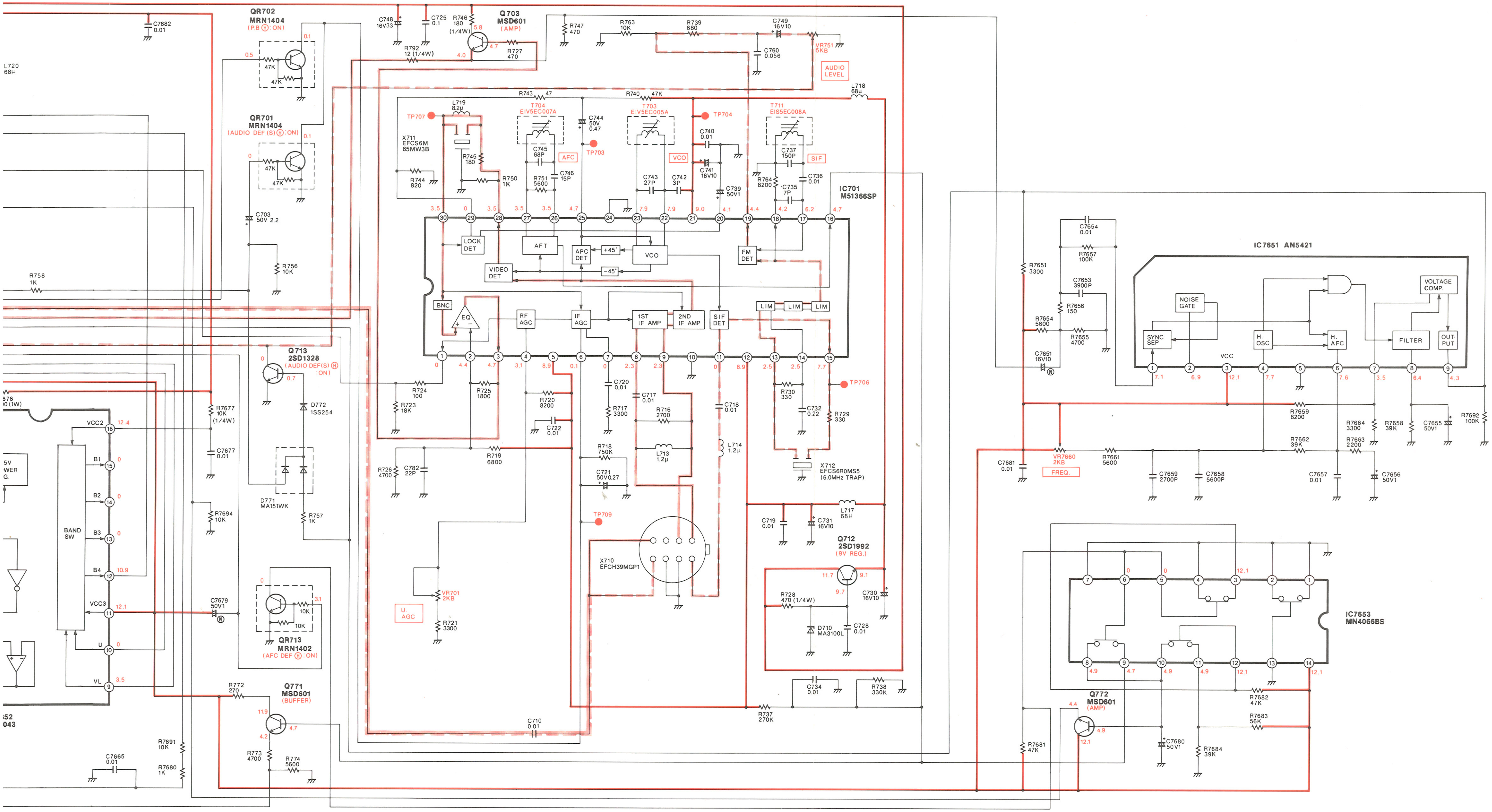

F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
PS701
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP7001 (Page: 4-13/D-14)
PP7001-1 AFC DEF (S) 2
PP7001-2 UNREG 45V 3
PP7001-3 NON SW 12V 4
PP7001-4 TV/VTR 5
PP7001-5 AFC (S) 6
PS702
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP7002 (Page: 4-13/E-14)
PP7002-1 REG 12.3V 7
PP7002-2 BAND (U) 8
PP7002-3 BAND (VL) 9
PP7002-4 DAC 10
PP7002-5 11
PS703
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP7003 (Page: 4-13/F-14)
PP7003-1 12
PP7003-2 GND 13
PP7003-3 TUNER VIDEO 14
PP7003-4 REG 12.3V 15
PP7003-5 SYNC Ⓛ 16
PS704
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP7004 (Page: 4-13/F-14)
PP7004-1 AUDIO DEF (S) 17
PP7004-2 P.B Ⓗ 18
PP7004-3 GND 19
PP7004-4 NORMAL AUDIO 20
PP7004-5 21
PP7004-6 22
ANT/TUNER ENV87837H3R
RF OUT
RF IN
CONV. IN
TO RF CONV.
ANT+B
TV/VTR
BU
BT
BH
AGC
BL
AFC
BM
IF
R795 2200
L701 68μ
L720 68μ
C7682 0.01
C701 25V4.7
C706 0.1
C702 16V10
C708 16V10
D773 MA151K
R758 1K
QR702 MRN1404 (P.B Ⓗ: ON)
QR701 MRN1404 (AUDIO DEF (S) Ⓗ: ON)
C703 50V 2.2
R756 10K
Q713 2SD1328 (AUDIO DEF(S) Ⓗ: ON)
D772 1SS254
D771 MA151WK
R757 1K
R7677 10K (1/4W)
C7677 0.01
R7694 10K
C7679 50V1
QR713 MRN1402 (AFC DEF Ⓗ: ON)
Q771 MSD601 (BUFFER)
R772 270
R773 4700
R774 5600
R7691 10K
R7680 1K
R7676 1500 (1W)
C7678 16V10
C7667 50V10
IC7652 AN5043
GND
31.5V POWER REG.
VCC1
DAC IN
GND
DAC OUT
BT IN
BT OUT
BAND SW
VCC2
B1
B2
B3
B4
VCC3
U
VL
R7679 10 (1/4W)
C7675 50V1
C7666 0.01
R7678 22K
R7671 47K
C7661 0.1
R7672 47K
C7662 0.068
R7673 100K
C7663 0.082
R7674 120K
C7664 0.027
R7675 10K
C7676 0.01
C7665 0.01
D7601 MA151A
R7696 47K
D7602 MA3082M
QR7601 MRN1404 (PROTECT)
R7695 5600
C748 16V33
C725 0.1
R746 180 (1/4W)
Q703 MSD601 (AMP)
R792 12 (1/4W)
R727 470
R747 470
R763 10K
R739 680
C749 16V10
C760 0.056
VR751 5KB
AUDIO LEVEL
L718 68μ
TP707
L719 8.2μ
X711 EFCS6M 65MW3B
R745 180
R744 820
R750 1K
R743 47
T703 EIV5EC007A
C745 68P
AFC
C744 50V 0.47
TP703
R751 5600
C746 15P
R740 47K
T703 EIV5EC005A
C743 27P
C742 3P
VCO
TP704
C740 0.01
C741 16V10
C739 50V1
T711 EIS5EC008A
C737 150P
SIF
R764 8200
C735 7P
C736 0.01
IC701 M51366SP
LOCK DET
AFT
APC DET
+45°
-45°
VCO
VIDEO DET
FM DET
BNC
EQ
RF AGC
IF AGC
1ST IF AMP
2ND IF AMP
SIF DET
LIM
LIM
LIM
R724 100
R723 18K
R725 1800
R720 8200
C722 0.01
C720 0.01
C717 0.01
R717 3300
R716 2700
C718 0.01
L714 1.2μ
R730 330
C732 0.22
R729 330
TP706
X712 EFCS6R0MS5 (6.0MHz TRAP)
R726 4700
C782 22P
R719 6800
R718 750K
C721 50V0.27
L713 1.2μ
TP709
X710 EFCH39MGP1
VR701 2KB
U. AGC
R721 3300
C719 0.01
C731 16V10
L717 68μ
Q712 2SD1992 (9V REG.)
R728 470 (1/4W)
C730 16V10
D710 MA3100L
C728 0.01
C734 0.01
R738 330K
R737 270K
C710 0.01

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASU

RAM (NV-SD30B, SD40B)

VIDEO SIGNAL PATH
AUDIO SIGNAL PATH


QR702
MRN1404
(P.B Ⓗ:ON)
Q703
MSD601
(AMP)
QR701
MRN1404
(AUDIO DEF(S)Ⓗ:ON)
Q713
2SD1328
(AUDIO DEF(S)Ⓗ:ON)
QR713
MRN1402
(AFC DEF Ⓗ:ON)
Q771
MSD601
(BUFFER)
Q712
2SD1992
(9V REG.)
Q772
MSD601
(AMP)
IC701
M51366SP
IC7651 AN5421
IC7653
MN4066BS
T704
EIV5EC007A
T703
EIV5EC005A
T711
EIS5EC008A
X711
EFCS6M
65MW3B
X712
EFCS6R0MS5
(6.0MHz TRAP)
X710
EFCH39MGP1
D772
1SS254
D771
MA151WK
D710
MA3100L
TP707
TP703
TP704
TP706
TP709
AFC
VCO
SIF
AUDIO LEVEL
U. AGC
FREQ.
VR751 5KB
VR701 2KB
VR7660 2KB
LOCK DET
AFT
APC DET
+45°
−45°
VCO
VIDEO DET
FM DET
BNC
EQ
RF AGC
IF AGC
1ST IF AMP
2ND IF AMP
SIF DET
LIM
NOISE GATE
SYNC SEP
H. OSC
H. AFC
FILTER
VOLTAGE COMP.
OUT-PUT
VCC
BAND SW
VCC2
VCC3
B1
B2
B3
B4
U
VL
L720 68µ
L719 8.2µ
L718 68µ
L713 1.2µ
L714 1.2µ
L717 68µ
R758 1K
R7677 10K (1/4W)
R7694 10K
R756 10K
R757 1K
R792 12 (1/4W)
R746 180 (1/4W)
R727 470
R747 470
R763 10K
R739 680
R743 47
R740 47K
R745 180
R744 820
R750 1K
R751 5600
R764 8200
R723 18K
R724 100
R725 1800
R720 8200
R719 6800
R726 4700
R717 3300
R718 750K
R716 2700
R730 330
R729 330
R721 3300
R728 470 (1/4W)
R737 270K
R738 330K
R772 270
R773 4700
R774 5600
R7691 10K
R7680 1K
R7651 3300
R7657 100K
R7656 150
R7654 5600
R7655 4700
R7659 8200
R7662 39K
R7664 3300
R7658 39K
R7663 2200
R7692 100K
R7661 5600
R7681 47K
R7682 47K
R7683 56K
R7684 39K
C7682 0.01
C748 16V33
C725 0.1
C749 16V10
C760 0.056
C744 50V 0.47
C745 68P
C746 15P
C743 27P
C742 3P
C740 0.01
C741 16V10
C739 50V1
C737 150P
C736 0.01
C735 7P
C703 50V 2.2
C7677 0.01
C7679 50V1
C7665 0.01
C720 0.01
C717 0.01
C722 0.01
C782 22P
C721 50V0.27
C718 0.01
C732 0.22
C719 0.01
C731 16V10
C730 16V10
C728 0.01
C734 0.01
C710 0.01
C7654 0.01
C7653 3900P
C7651 16V10
C7681 0.01
C7659 2700P
C7658 5600P
C7657 0.01
C7656 50V1
C7655 50V1
C7680 50V1

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

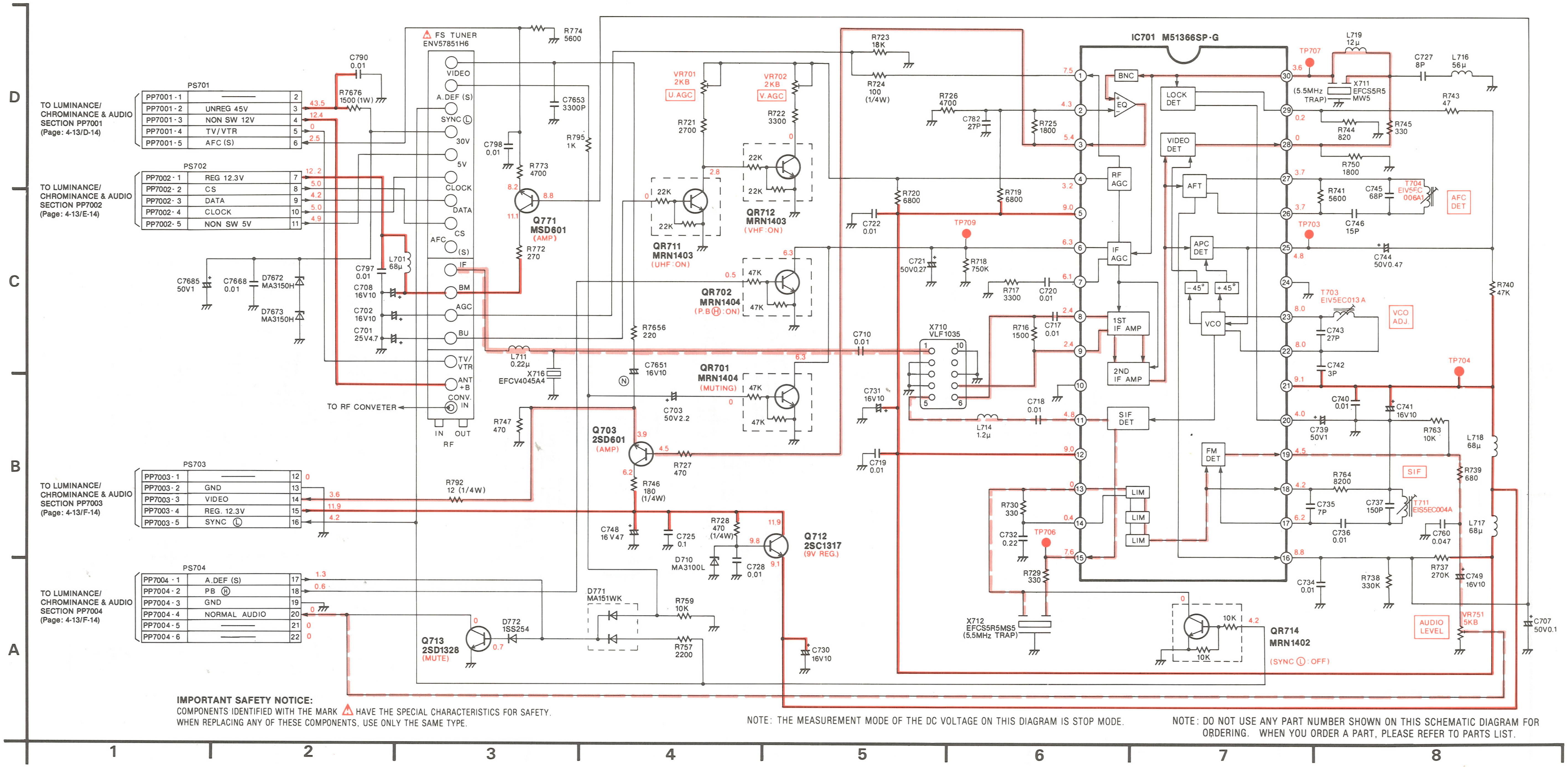
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4 5 6 7 8 9 10 11 12 13

4-14. TV DEMODULATOR PACK SCHEMATIC DIAGRAM (NV-SD30EG, SD40EG)

——— VIDEO SIGNAL PATH　　– – – AUDIO SIGNAL PATH



TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP7001 (Page: 4-13/D-14)
PS701
PP7001-1
PP7001-2 UNREG 45V
PP7001-3 NON SW 12V
PP7001-4 TV/VTR
PP7001-5 AFC (S)
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP7002 (Page: 4-13/E-14)
PS702
PP7002-1 REG 12.3V
PP7002-2 CS
PP7002-3 DATA
PP7002-4 CLOCK
PP7002-5 NON SW 5V
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP7003 (Page: 4-13/F-14)
PS703
PP7003-1
PP7003-2 GND
PP7003-3 VIDEO
PP7003-4 REG. 12.3V
PP7003-5 SYNC Ⓛ
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PP7004 (Page: 4-13/F-14)
PS704
PP7004-1 A.DEF (S)
PP7004-2 PB Ⓗ
PP7004-3 GND
PP7004-4 NORMAL AUDIO
PP7004-5
PP7004-6
FS TUNER ENV57851H6
VIDEO
A.DEF (S)
SYNC Ⓛ
30V
5V
CLOCK
DATA
CS
AFC (S)
IF
BM
AGC
BU
TV/VTR
ANT +B
CONV. IN
IN OUT RF
TO RF CONVETER
C790 0.01
R7676 1500 (1W)
C7653 3300P
R774 5600
R795 1K
C798 0.01
R773 4700
Q771 MSD601 (AMP)
R772 270
L701 68μ
C797 0.01
C708 16V10
C702 16V10
C701 25V4.7
C7685 50V1
C7668 0.01
D7672 MA3150H
D7673 MA3150H
L711 0.22μ
X716 EFCV4045A4
R747 470
R792 12 (1/4W)
Q713 2SD1328 (MUTE)
D772 1SS254
VR701 2KB U.AGC
VR702 2KB V.AGC
R721 2700
R722 3300
QR711 MRN1403 (UHF:ON)
QR712 MRN1403 (VHF:ON)
QR702 MRN1404 (P.B Ⓗ:ON)
QR701 MRN1404 (MUTING)
R7656 220
C7651 16V10
C703 50V2.2
Q703 2SD601 (AMP)
R727 470
R746 180 (1/4W)
C748 16V47
C725 0.1
R728 470 (1/4W)
D710 MA3100L
C728 0.01
Q712 2SC1317 (9V REG.)
D771 MA151WK
R759 10K
R757 2200
C730 16V10
R723 18K
R724 100 (1/4W)
R726 4700
C782 27P
R725 1800
R720 6800
R719 6800
C722 0.01
TP709
C721 50V0.27
R718 750K
R717 3300
C720 0.01
R716 1500
C717 0.01
C710 0.01
X710 VLF1035
C731 16V10
C719 0.01
L714 1.2μ
C718 0.01
R730 330
C732 0.22
TP706
R729 330
X712 EFCS5R5MS5 (5.5MHz TRAP)
IC701 M51366SP-G
BNC
EQ
RF AGC
IF AGC
1ST IF AMP
2ND IF AMP
SIF DET
LIM
LOCK DET
VIDEO DET
AFT
APC DET
-45°
+45°
VCO
FM DET
TP707
L719 12μ
X711 EFCS5R5MW5 (5.5MHz TRAP)
C727 8P
L716 56μ
R743 47
R744 820
R745 330
R750 1800
R741 5600
C745 68P
T704 EIV5FC006A
AFC DET
TP703
C746 15P
C744 50V0.47
T703 EIV5EC013A
VCO ADJ.
C743 27P
C742 3P
TP704
R740 47K
C740 0.01
C741 16V10
C739 50V1
R763 10K
L718 68μ
SIF
R764 8200
C735 7P
C737 150P
T711 EIS5EC004A
R739 680
C736 0.01
C760 0.047
L717 68μ
C734 0.01
R738 330K
R737 270K
C749 16V10
VR751 5KB
AUDIO LEVEL
C707 50V0.1
QR714 MRN1402 (SYNC Ⓛ:OFF)
A B C D
1 2 3 4 5 6 7 8

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

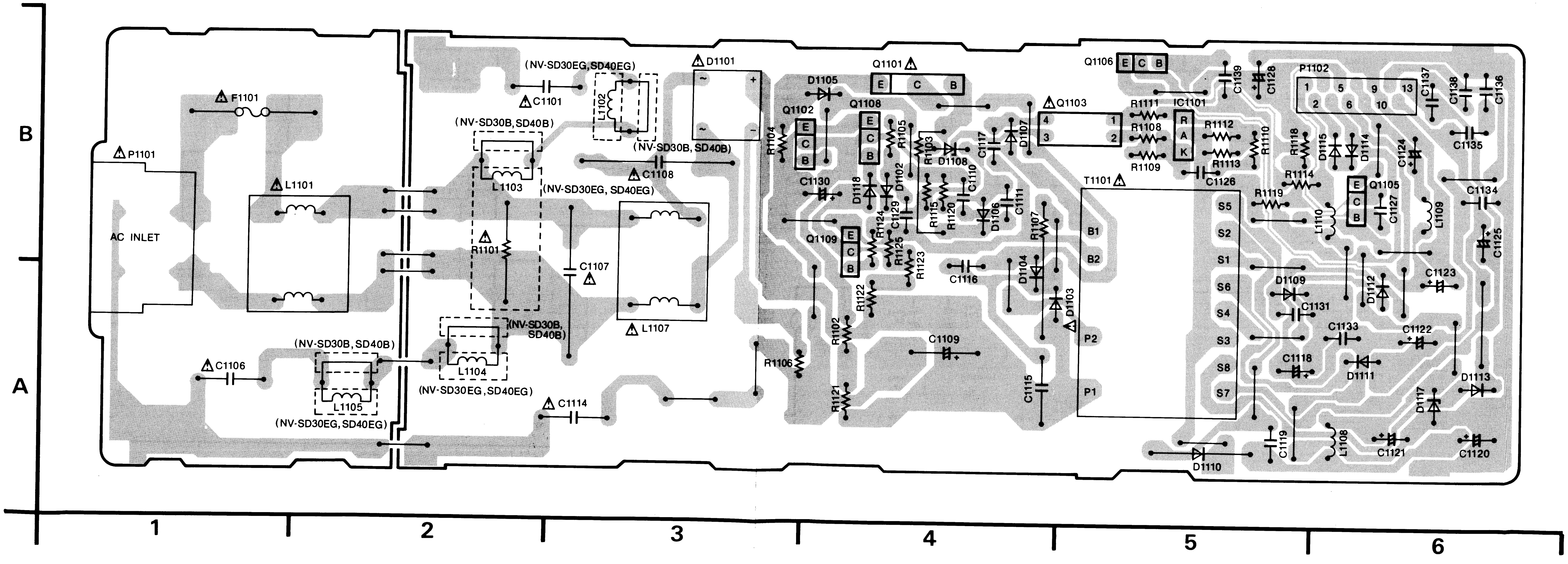
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

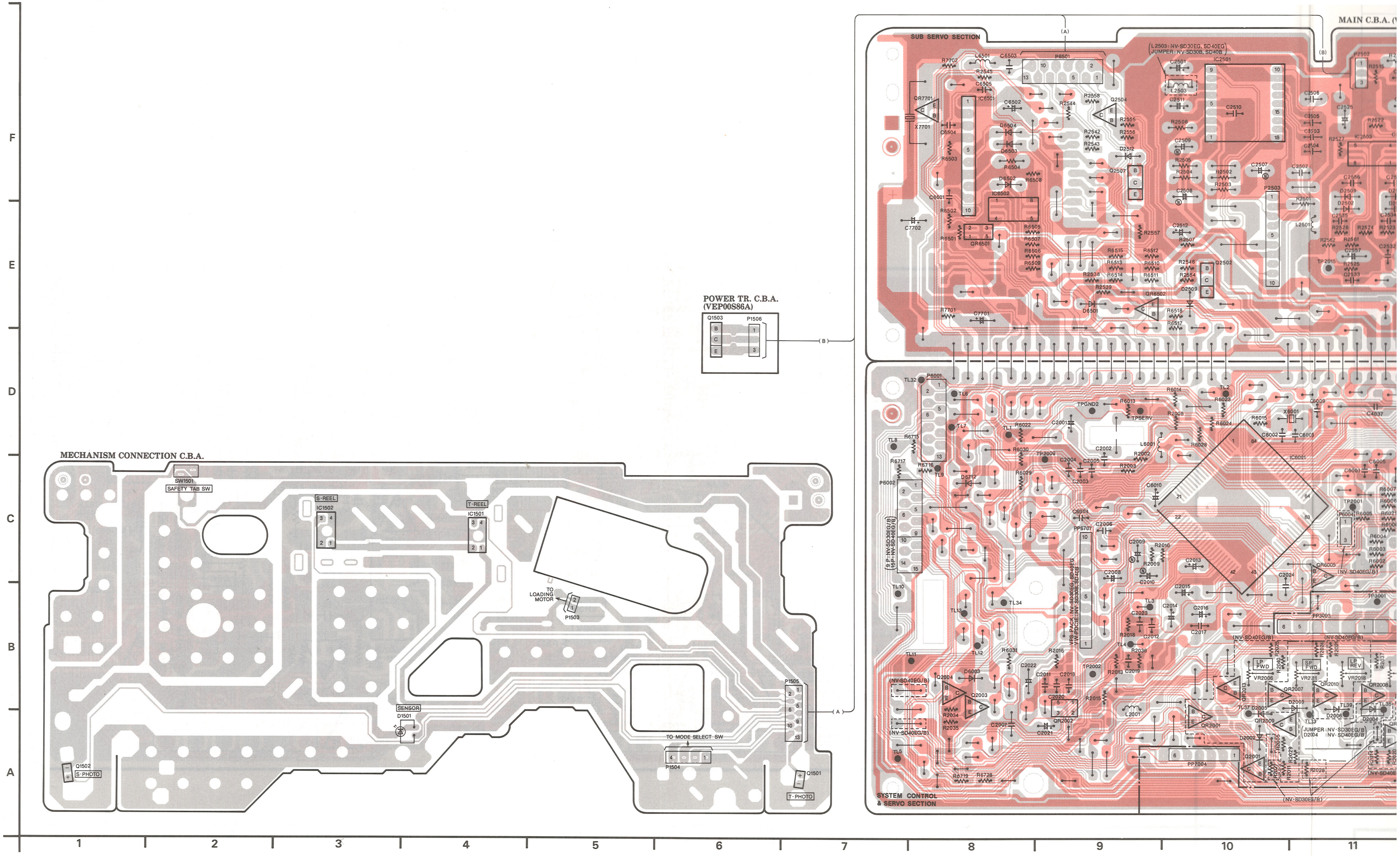
4-15. POWER C.B.A. (VEP01518G: NV-SD30EG, SD40EG) (VEP01518H: NV-SD30B, SD40B)

POWER C.B.A.	
Transistor	
Q1101	B-4
Q1102	B-3
Q1103	B-5
Q1105	B-6
Q1106	B-5
Q1108	B-4
Q1109	B-4
Integrated Circuit	
IC1101	B-5
Connector	
P1101	B-1
P1102	B-6

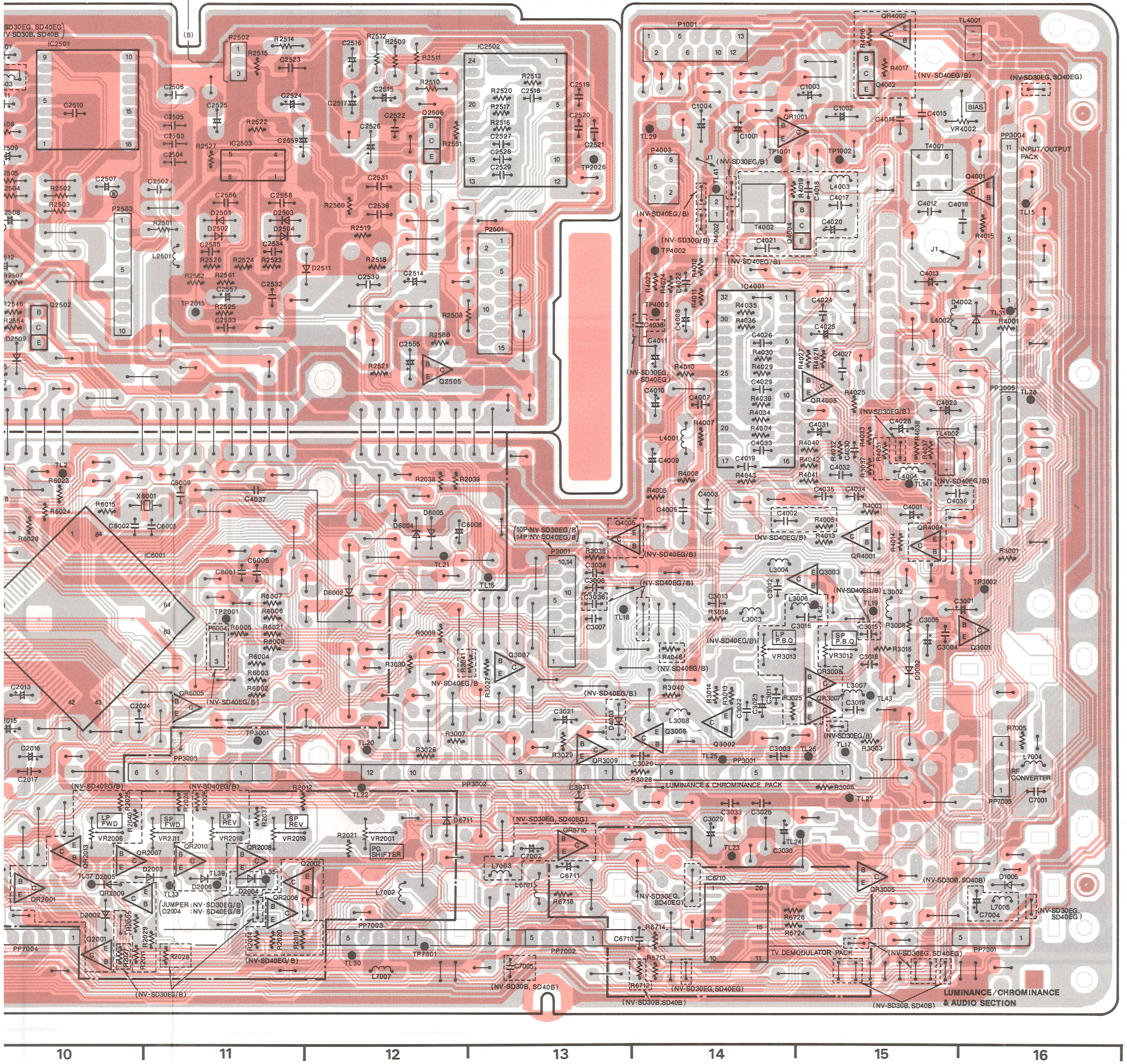
ADDRESS INFORMATION


B
A
1
2
3
4
5
6
P1101
AC INLET
F1101
L1101
C1106
(NV-SD30B, SD40B)
L1105
(NV-SD30EG, SD40EG)
(NV-SD30EG, SD40EG)
C1101
(NV-SD30B, SD40B)
L1103
R1101
L1102
(NV-SD30B, SD40B)
C1108
(NV-SD30EG, SD40EG)
C1107
(NV-SD30B, SD40B)
L1104
(NV-SD30EG, SD40EG)
C1114
D1101
L1107
R1106
Q1102
R1104
D1105
Q1101
E
C
B
Q1108
R1105
R1103
D1108
D1102
D1118
C1130
Q1109
R1124
R1125
C1129
R1115
R1120
C1110
C1117
D1107
D1106
C1111
R1123
R1122
R1102
R1121
C1116
D1104
D1103
C1109
C1115
R1107
Q1103
T1101
B1
B2
P2
P1
S5
S2
S1
S6
S4
S3
S8
S7
Q1106
R1111
R1108
R1109
IC1101
R
A
K
R1112
R1113
C1126
R1110
C1139
C1128
P1102
R1118
D1115
D1114
R1114
R1119
L1110
Q1105
C1127
C1124
L1109
C1137
C1138
C1136
C1135
C1134
C1125
C1123
D1109
C1131
D1112
C1133
C1122
C1118
D1111
D1113
D1117
C1119
L1108
C1121
C1120
D1110

4-16. MAIN C.B.A. (VEP03971J: NV-SD30EG) (VEP03971L: NV-SD30B) (VEP03971H: NV-SD40EG) (VEP03971K: NV-SD40B)


MAIN C.B.A.
SUB SERVO SECTION
SYSTEM CONTROL & SERVO SECTION
POWER TR. C.B.A. (VEP00S86A)
Q1503
P1506
MECHANISM CONNECTION C.B.A.
SW1501
SAFETY TAB SW
S-REEL
IC1502
T-REEL
IC1501
TO LOADING MOTOR
P1503
SENSOR
D1501
TO MODE SELECT SW
P1504
P1505
Q1502
S-PHOTO
Q1501
T-PHOTO
L2503 : NV-SD30EG, SD40EG
JUMPER : NV-SD30B, SD40B
IC2501
IC6501
IC6502
P6501
P6001
P6002
IC6001
X6001
X7701
(9 P : NV-SD30EG/B) (15P : NV-SD40EG/B)
VPS PACK : NV-SD30EG, SD40EG
: PDC : NV-SD30B, SD40B
(NV-SD40EG/B)
(NV-SD30EG/B)
JUMPER : NV-SD30EG/B
D2004 : NV-SD40EG/B
LP FWD
SP FWD
LP REV
PP3003
PP7004
(A)
(B)
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

MAIN C.B.A. (VEP03971J: NV-SD30EG) (VEP03971L: NV-SD30B) (VEP03971H: NV-SD40EG) (VEP03971K: NV-SD40B)



INPUT/OUTPUT PACK
LUMINANCE & CHROMINANCE PACK
TV DEMODULATOR PACK
RF CONVERTER
LUMINANCE/CHROMINANCE & AUDIO SECTION
10
11
12
13
14
15
16

MAIN C.B.A. ADDRESS INFORMATION

SYSTEM CONTROL & SERVO Section	
Transistor	
Q2001	A-10
Q2002	A-12
Q2003	B-8
Q2004	B-8
Transistor & Resistor	
QR2001	A-10
QR2002	A-9
QR2006	A-11
QR2007	B-10
QR2008	B-11
QR2009	A-10
QR2010	B-11
QR2013	B-10
QR6005	C-11
QR6710	B-13
Integrated Circuit	
IC6001	C-11
IC6710	A-14
Test Point	
TP2001	C-11
TP2002	B-9
TP2009	C-9
TPGND2	D-9
TPSERV	D-9
Adjustment	
VR2001	B-12
VR2005	B-10
VR2011	B-11
VR2018	B-11
VR2019	B-11
Connector	
P6001	D-8
P6002	C-7
P6004	C-11
PP6707	C-9

ADDRESS INFORMATION

SUB SERVO Section	
Transistor	
Q1501	A-7
Q1502	A-1
Q1503	D-6
Q2502	E-10
Q2504	F-9
Q2505	E-12
Q2506	F-12
Q2507	F-9
Transistor & Resistor	
QR6501	E-8
QR6502	E-9
QR7701	F-8
Integrated Circuit	
IC1501	C-4
IC1502	C-3
IC2501	F-10
IC2502	F-13
IC2503	F-11
IC6501	F-8
IC6502	E-8
Test Point	
TP2015	E-11
TP2026	F-13
Connector	
P1503	B-5
P1504	A-6
P1505	B-7
P1506	D-6
P2501	E-13
P2502	F-11
P2503	F-10
P6501	F-9

ADDRESS INFORMATION

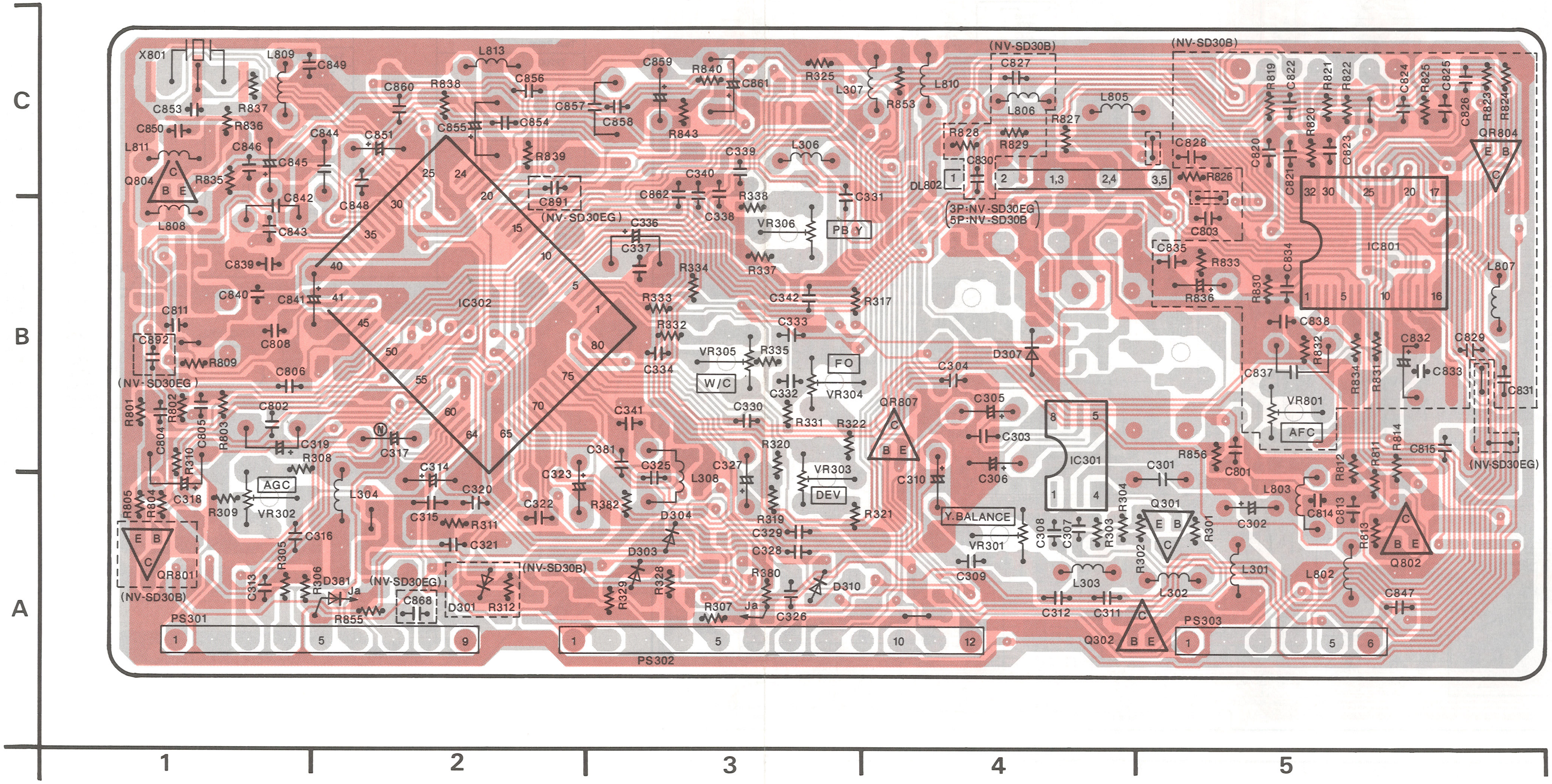
LUMINANCE/ CHROMINANCE & AUDIO Section	
Transistor	
Q3001	C-16
Q3002	B-14
Q3003	C-15
Q3006	B-14
Q3007	C-13
Q4001	F-16
Q4002	F-15
Q4004	E-14
Q4005	D-13
Transistor & Resistor	
QR1001	F-14
QR3005	A-15
QR3007	C-15
QR3008	C-15
QR3009	B-13
QR4001	D-15
QR4002	F-15
QR4004	D-15
QR4005	D-15
Integrated Circuit	
IC4001	E-14
Test Point	
TP1001	F-14
TP1002	F-15
TP3002	C-16
TP4002	E-14
TP4003	E-14
TPGND1	F-14
Adjustment	
VR3012	C-15
VR3013	C-14
Connector	
P1001	F-14
P3001	C-13
P4003	F-14
PP3001	B-14
PP3002	B-13
PP3004	F-16
PP3005	D-16
PP7001	A-16
PP7002	A-13
PP7003	A-12
PP7004	A-10
PP7005	B-16

ADDRESS INFORMATION

4-17. LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03A01A1PE: NV-SD30EG) (VEP03A01BPE: NV-SD30B)

LUMINANCE & CHROMINANCE PACK C.B.A.			
Transistor		**Adjustment**	
Q301	A-5	VR301	A-4
Q302	A-4	VR302	A-1
Q802	A-5	VR303	A-3
Q804	C-1	VR304	B-3
Transistor & Resistor		VR305	B-3
QR801	A-1	VR306	B-3
QR804	C-5	VR801	B-5
QR807	B-4	**Connector**	
Integrated Circuit		PS301	A-1
IC301	B-4	PS302	A-3
IC302	B-2	PS303	A-5
IC801	B-5		

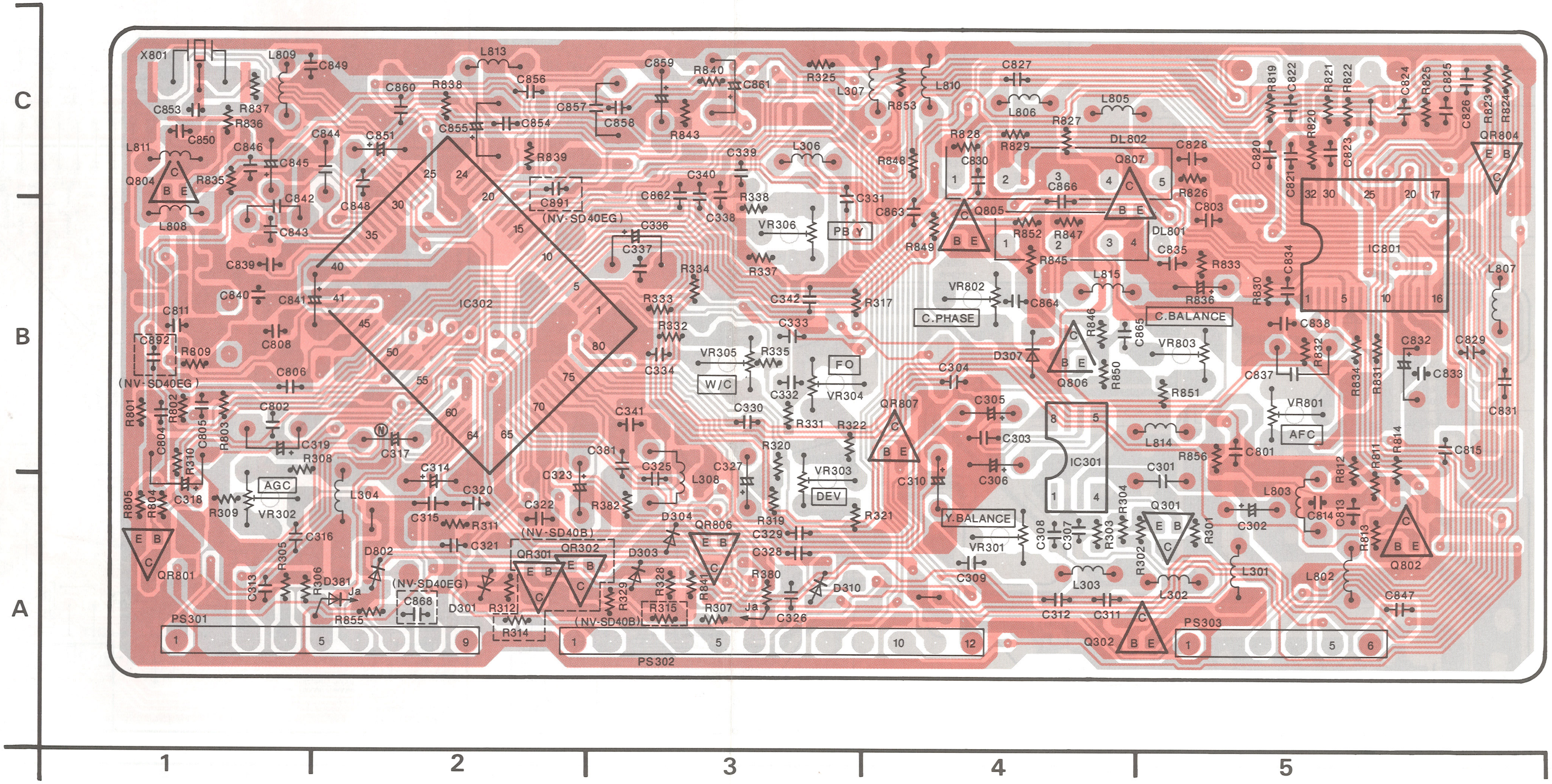
ADDRESS INFORMATION


C
B
A
1
2
3
4
5
X801
L809
C849
L813
C856
C859
R840
C861
R325
L307
R853
L810
(NV-SD30B)
C827
L806
L805
R827
C853
R837
C850
R836
C860
R838
C855
C854
C857
C858
R843
L811
C846
C845
C844
C851
R839
C339
L306
R828
R829
C830
C828
R826
Q804
R835
C842
C848
C843
L808
C891
(NV-SD30EG)
C862
C340
R338
C338
C331
DL802
3P:NV-SD30EG
5P:NV-SD30B
VR306
PB Y
C336
C337
R334
R337
C803
C835
R833
R836
R830
C834
IC801
L807
C839
C840
C841
IC302
R333
R332
C342
R317
C333
C838
C811
C892
R809
C808
C806
VR305
R335
W/C
FO
C334
C332
VR304
C330
R331
R322
C304
D307
C305
C303
C306
QR807
IC301
C837
VR801
AFC
C832
C829
C833
C831
R801
R802
R803
C804
C805
C802
C319
R308
C317
C341
C381
C323
C325
L308
C327
R320
VR303
DEV
C310
R856
C801
C815
(NV-SD30EG)
R810
AGC
R309
VR302
C318
R805
R804
C316
L304
C314
C320
C315
R311
C321
C322
R382
D304
R319
C329
C328
R321
Y.BALANCE
VR301
C308
C307
R303
R304
Q301
R301
C302
L803
C814
R813
R812
R811
R814
QR802
QR801
(NV-SD30B)
R305
C313
R306
D381
Ja
R855
C868
D301
R312
D303
R328
R329
R380
D310
R307
C326
C309
L303
C312
C311
L302
R302
L301
L802
C847
PS301
PS302
PS303
Q302
QR804
R819
C822
R821
R822
C824
R825
C825
C826
R823
R824
C820
R820
C821
C823
C836
E B C

4-18. LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03A01DPE: NV-SD40EG) (VEP03A01EPE: NV-SD40B)

LUMINANCE & CHROMINANCE PACK C.B.A.			
Transistor		**Adjustment**	
Q301	A-5	VR301	A-4
Q302	A-4	VR302	A-1
Q802	A-5	VR303	A-3
Q804	C-1	VR304	B-3
Q805	B-4	VR305	B-3
Q806	B-4	VR306	B-3
Q807	C-4	VR801	B-5
Transistor & Resistor		VR802	B-4
		VR803	B-5
QR301	A-2	**Connector**	
QR302	A-2	PS301	A-1
QR801	A-1	PS302	A-3
QR804	C-5	PS303	A-5
QR806	A-3		
QR807	B-4		
Integrated Circuit			
IC301	B-4		
IC302	B-2		
IC801	B-5		

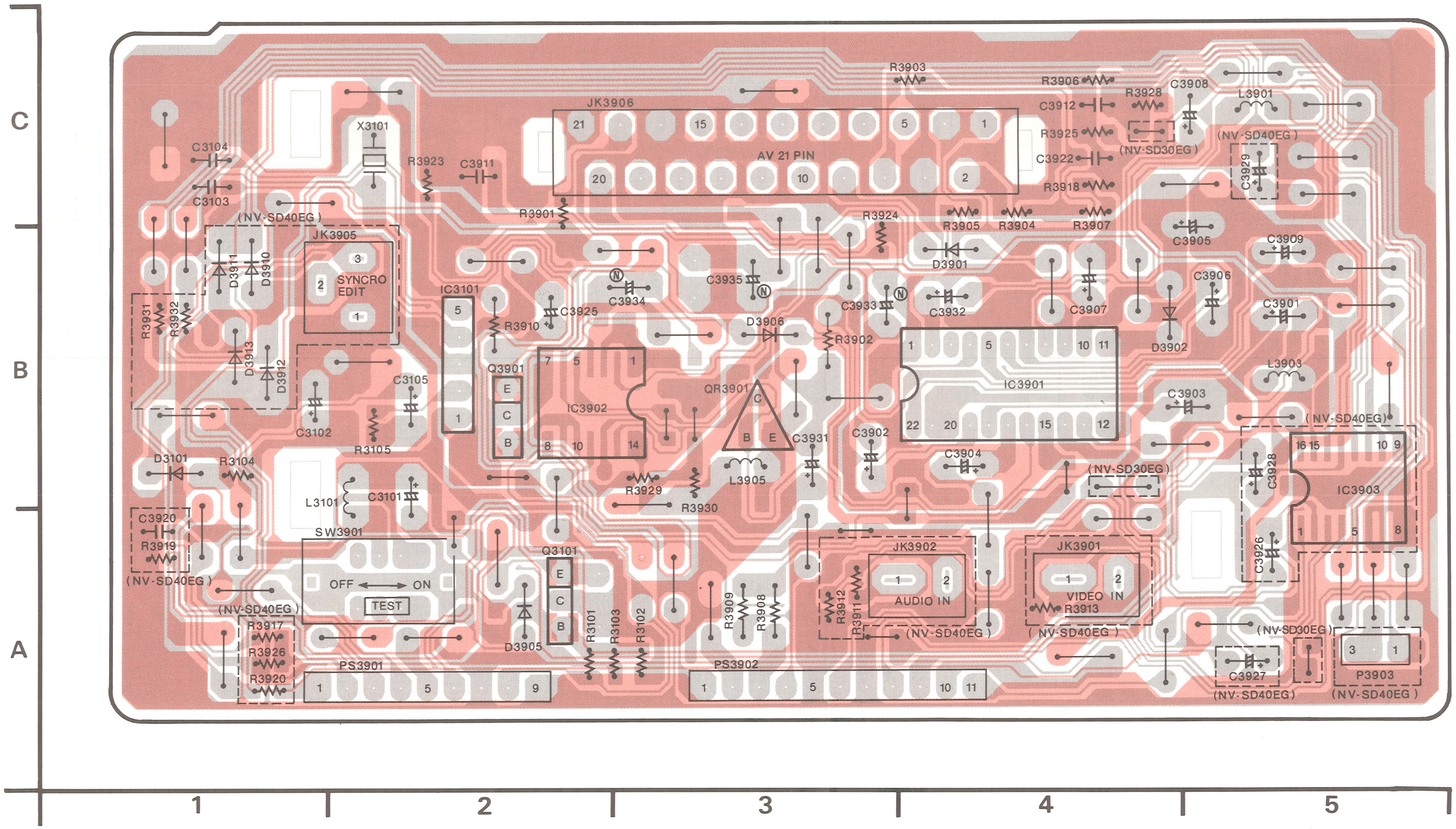
ADDRESS INFORMATION


C
B
A
1
2
3
4
5
X801
L809
C849
L813
C859
R840
C861
R325
L307
L810
C827
L805
C853
R837
R836
C850
L811
C846
C845
C844
C851
C860
R838
C856
C855
C854
C857
C858
R843
R853
L806
R827
DL802
C828
Q804
R835
C842
C843
C848
L808
R839
C891
(NV-SD40EG)
C339
C340
L306
C862
R338
C338
C331
C863
R848
R828
R829
C830
C866
Q807
R826
C803
Q805
R852
R847
DL801
R849
C835
R845
R833
L815
R836
C336
C337
VR306
PB Y
R334
R337
C839
C840
C841
IC302
R333
R332
C342
R317
VR802
C864
C.PHASE
C.BALANCE
C811
C892
R809
(NV-SD40EG)
C808
C806
C802
C319
R308
C317
C314
C320
C334
VR305
R335
W/C
FO
C332
VR304
C333
C330
R331
R322
C341
C304
C305
C303
D307
Q806
R846
C865
R850
VR803
R851
IC301
L814
R856
C801
VR801
AFC
R801
R802
C804
C805
R803
R310
C318
R805
R804
R309
AGC
VR302
L304
C315
R311
C321
C316
QR801
C313
R305
R306
D381
Ja
R855
D802
(NV-SD40EG)
C868
D301
R312
R314
QR301
QR302
(NV-SD40B)
C322
R382
C323
C381
C325
L308
C327
R320
VR303
DEV
R321
D304
QR806
R319
C329
C328
D303
R380
R328
R329
R315
R307
Ja
R841
D310
C326
C310
C306
QR807
Y.BALANCE
VR301
C309
C308
C307
R303
R304
R302
Q301
R301
L303
L302
C312
C311
Q302
C301
C302
L803
C814
C813
R813
R812
R811
R814
L301
L802
Q802
C847
C815
PS301
PS302
PS303
IC801
QR804
L807
C819
C822
R821
R822
C824
R825
C825
C826
R823
R824
R819
R820
C820
C821
C823
R830
C834
C838
C832
R832
C837
C829
R834
R831
C833
C831
B
E
C

4-19. INPUT/OUTPUT PACK C.B.A. (VEP03973B: NV-SD30EG) (VEP03973A: NV-SD40EG)

INPUT/OUTPUT PACK C.B.A.	
Transistor	
Q3101	A-2
Q3901	B-2
Transistor & Resistor	
QR3901	B-3
Integrated Circuit	
IC3101	B-2
IC3901	B-4
IC3902	B-2
IC3903	B-5
Connector	
P3903	A-5
PS3901	A-2
PS3902	A-3

ADDRESS INFORMATION

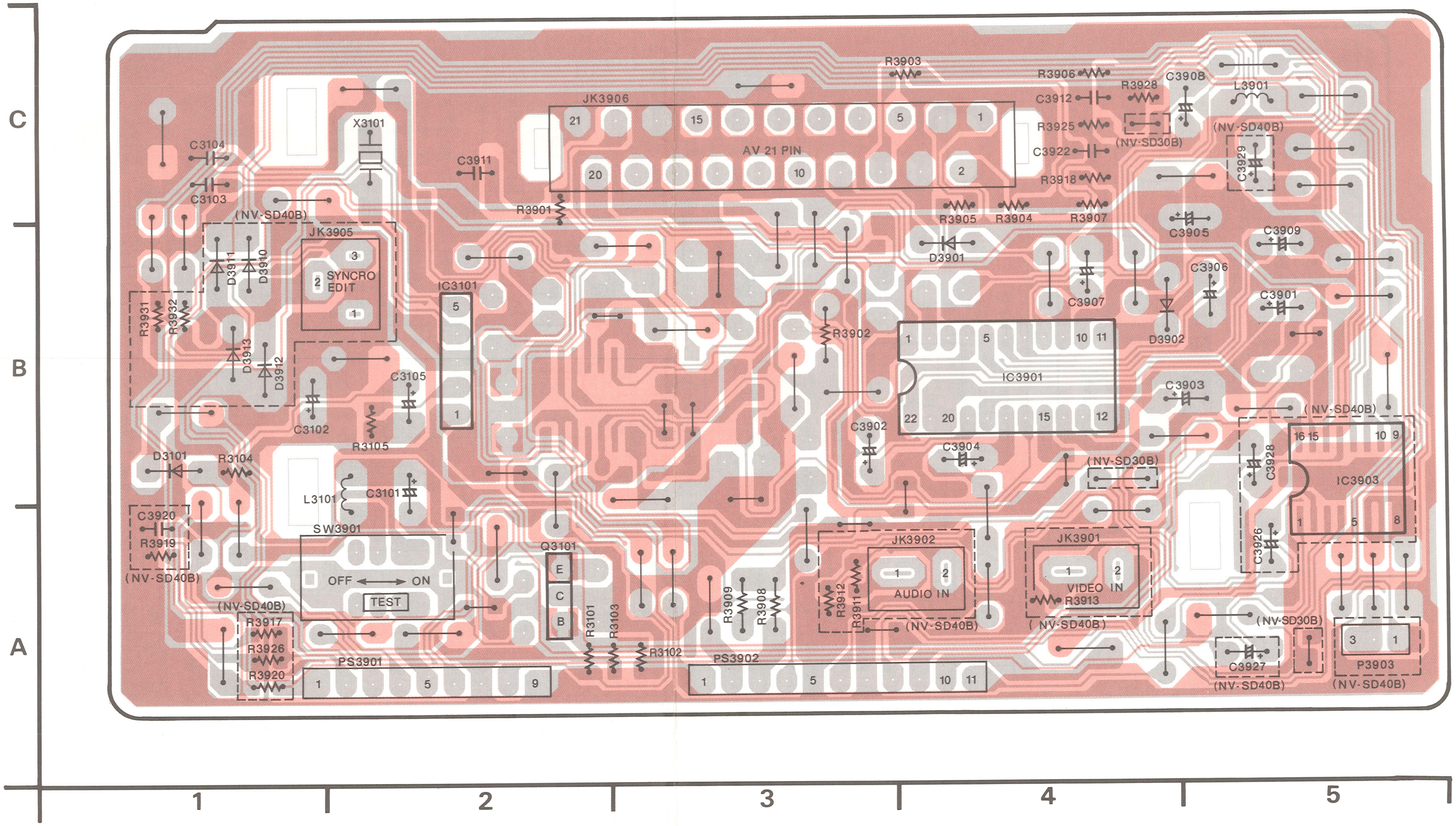


C
B
A
1
2
3
4
5
JK3906
AV 21 PIN
21
15
5
1
20
10
2
X3101
C3104
C3103
R3923
C3911
R3901
R3903
R3906
C3912
R3928
C3908
L3901
R3925
(NV-SD30EG)
(NV-SD40EG)
C3922
C3929
R3918
R3924
R3905
R3904
R3907
C3905
C3909
(NV-SD40EG)
JK3905
SYNCRO
EDIT
D3911
D3910
R3931
R3932
D3913
D3912
C3102
C3105
R3105
IC3101
R3910
C3925
Q3901
E
C
B
IC3902
7
5
1
8
10
14
C3934
C3935
D3906
QR3901
R3902
C3933
C3932
D3901
C3907
C3906
D3902
C3901
L3903
IC3901
11
22
20
12
C3903
C3931
C3902
C3904
L3905
R3929
R3930
D3101
R3104
L3101
C3101
C3920
R3919
(NV-SD40EG)
SW3901
OFF
ON
TEST
Q3101
D3905
R3101
R3103
R3102
R3917
R3926
R3920
PS3901
9
R3909
R3908
JK3902
AUDIO IN
R3912
R3911
JK3901
VIDEO IN
R3913
PS3902
(NV-SD30EG)
IC3903
C3928
C3926
16 15
C3927
P3903
3

4-20. INPUT/OUTPUT PACK C.B.A. (VEP03973D: NV-SD30B) (VEP03973C: NV-SD40B)

INPUT/OUTPUT PACK C.B.A.	
Transistor	
Q3101	A-2
Integrated Circuit	
IC3101	B-2
IC3901	B-4
IC3903	B-5
Connector	
P3903	A-5
PS3901	A-2
PS3902	A-3

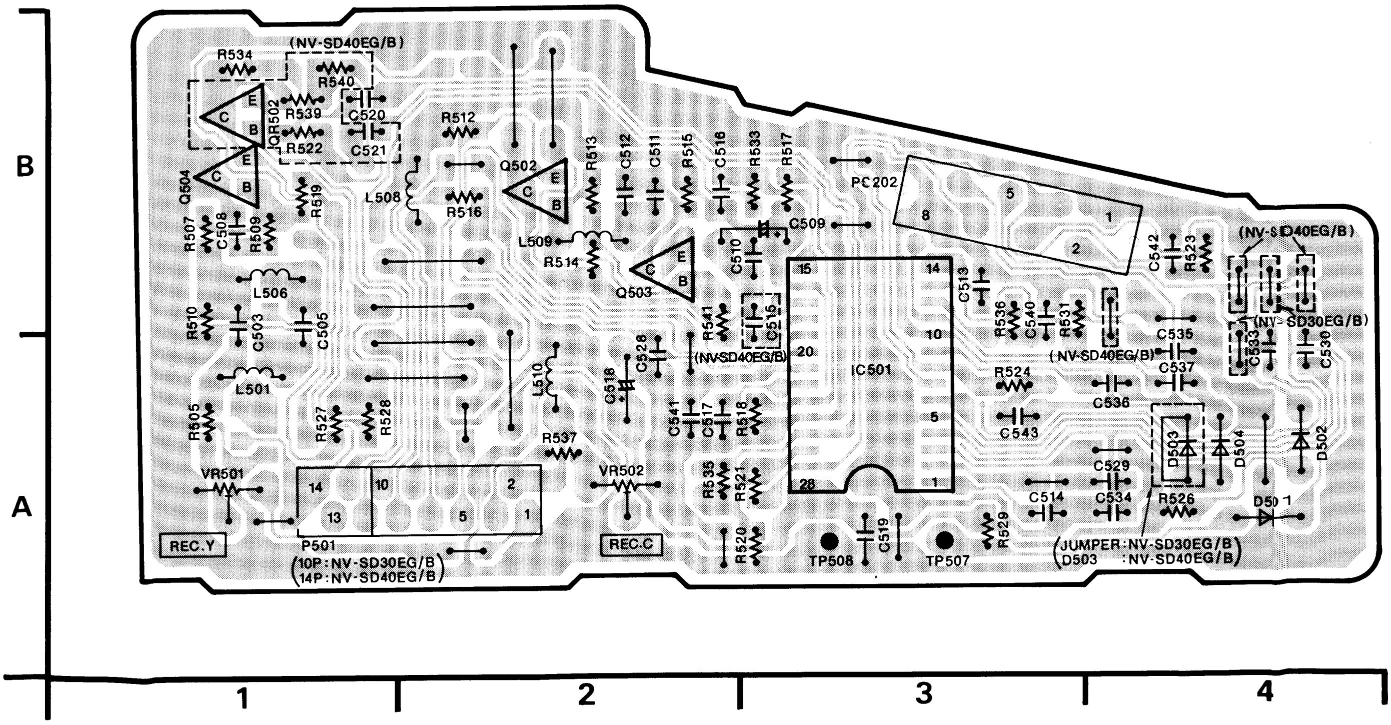
ADDRESS INFORMATION


C
B
A
1
2
3
4
5
C3104
C3103
X3101
C3911
JK3906
AV 21 PIN
21
15
5
1
20
10
2
R3903
R3906
C3912
R3928
C3908
L3901
R3925
C3922
R3918
(NV-SD30B)
(NV-SD40B)
C3929
R3901
R3905
R3904
R3907
C3905
C3909
D3901
C3906
C3901
C3907
D3902
(NV-SD40B)
JK3905
3
2
SYNCRO EDIT
1
D3911
D3910
IC3101
R3931
R3932
D3913
D3912
C3105
C3102
R3105
R3902
IC3901
1
5
10
11
22
20
15
12
C3902
C3904
C3903
(NV-SD40B)
16 15
10 9
IC3903
1
5
8
C3928
C3926
(NV-SD30B)
D3101
R3104
L3101
C3101
C3920
R3919
(NV-SD40B)
SW3901
OFF
ON
TEST
Q3101
E
C
B
R3101
R3103
R3102
(NV-SD40B)
R3917
R3926
R3920
PS3901
1
5
9
R3909
R3908
PS3902
1
5
10
11
JK3902
1
2
AUDIO IN
R3912
R3911
(NV-SD40B)
JK3901
1
2
VIDEO IN
R3913
(NV-SD40B)
(NV-SD30B)
C3927
(NV-SD40B)
3
1
P3903
(NV-SD40B)

4-21. HEAD AMP C.B.A. (VEP05182APE: NV-SD30EG/B)
(VEP05182BPE: NV-SD40EG/B)

HEAD AMP C.B.A.	
Transistor	
Q502 Q503 Q504	B-2 B-2 B-1
Transistor & Resistor	
QR502	B-1
Integrated Circuit	
IC501	A-3
Test Point	
TP507 TP508	A-3 A-3
Adjustment	
VR501 VR502	A-1 A-2
Connector	
P501 PS202	A-1 B-3

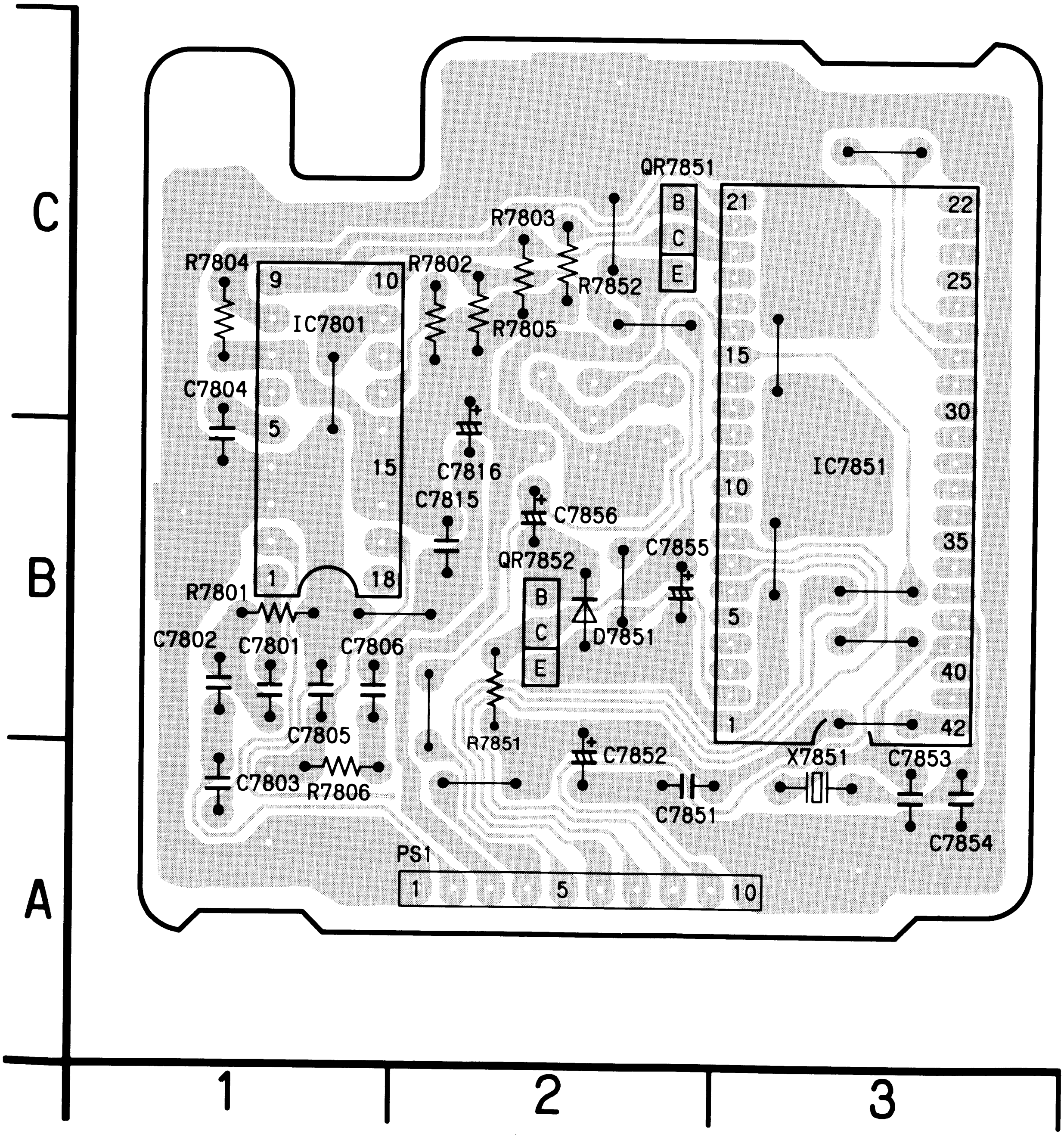
ADDRESS INFORMATION


B
A
1
2
3
4
(NV-SD40EG/B)
R534
R540
QR502
R539
R522
C520
C521
Q504
R512
R516
L508
Q502
R513
C512
C511
R515
C516
R533
R517
PS202
8
5
1
2
R507
C508
R509
R519
L509
R514
C509
Q503
C510
15
14
R542
C542
R523
(NV-SD40EG/B)
L506
R510
C503
C505
R541
C515
(NV-SD40EG/B)
C528
20
IC501
10
C513
R536
C540
R531
(NV-SD40EG/B)
C535
C537
C533
C530
(NV-SD30EG/B)
L501
L510
C518
R524
C536
C543
R505
R527
R528
C541
C517
R518
5
D503
D504
D502
R537
VR501
VR502
14
10
2
13
5
1
R535
R521
28
1
C529
C514
C534
R526
D501
REC.Y
P501
(10P:NV-SD30EG/B)
(14P:NV-SD40EG/B)
REC.C
R520
TP508
C519
TP507
R529
(JUMPER:NV-SD30EG/B)
(D503 :NV-SD40EG/B)

4-22. VPS PACK C.B.A. (VEP07538G: NV-SD30EG, SD40EG)

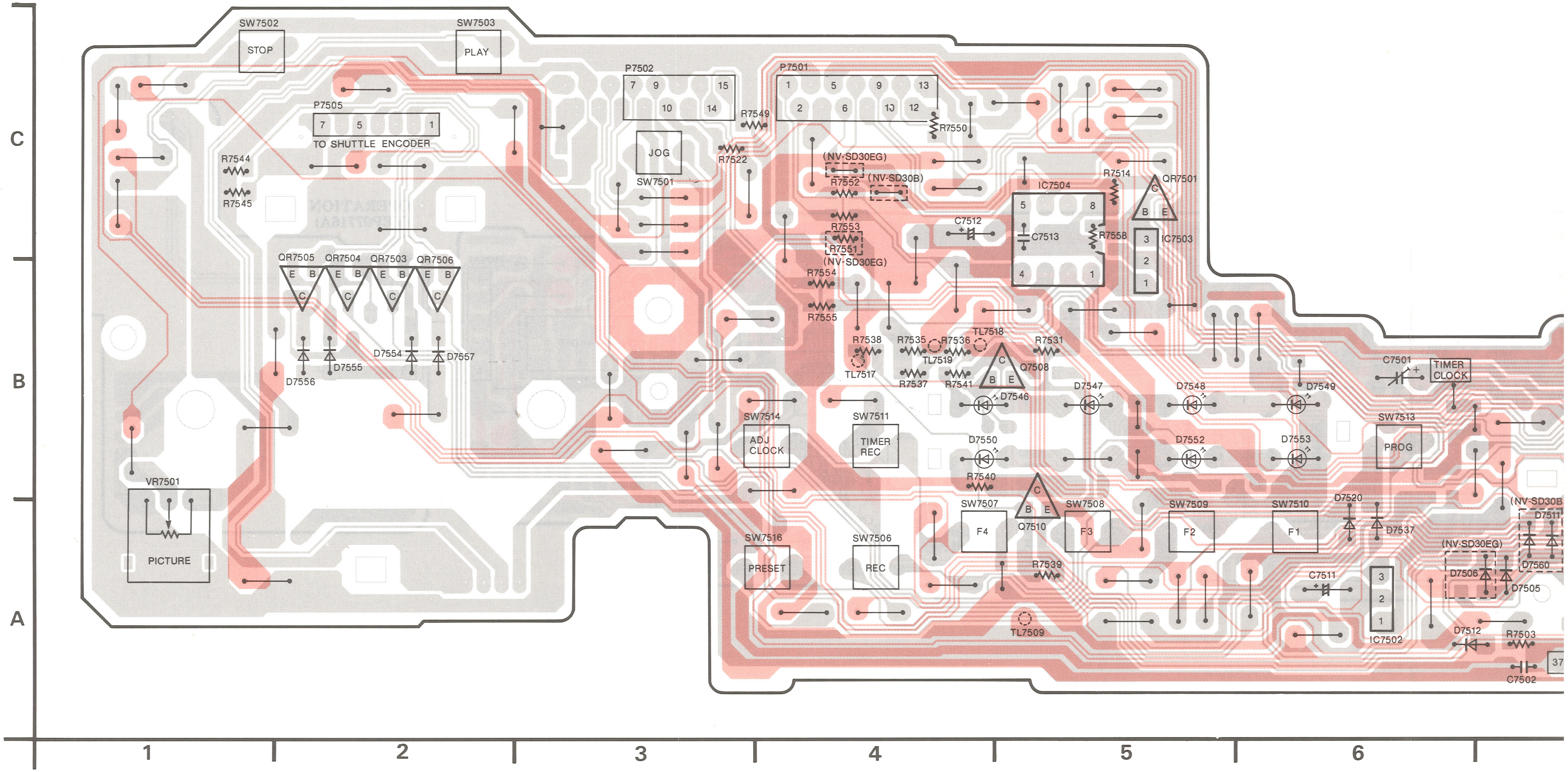
VPS PACK C.B.A.	
Transistor & Resistor	
QR7851 QR7852	C-2 B-2
Integrated Circuit	
IC7801 IC7851	C-1 B-3
Connector	
PS1	A-2

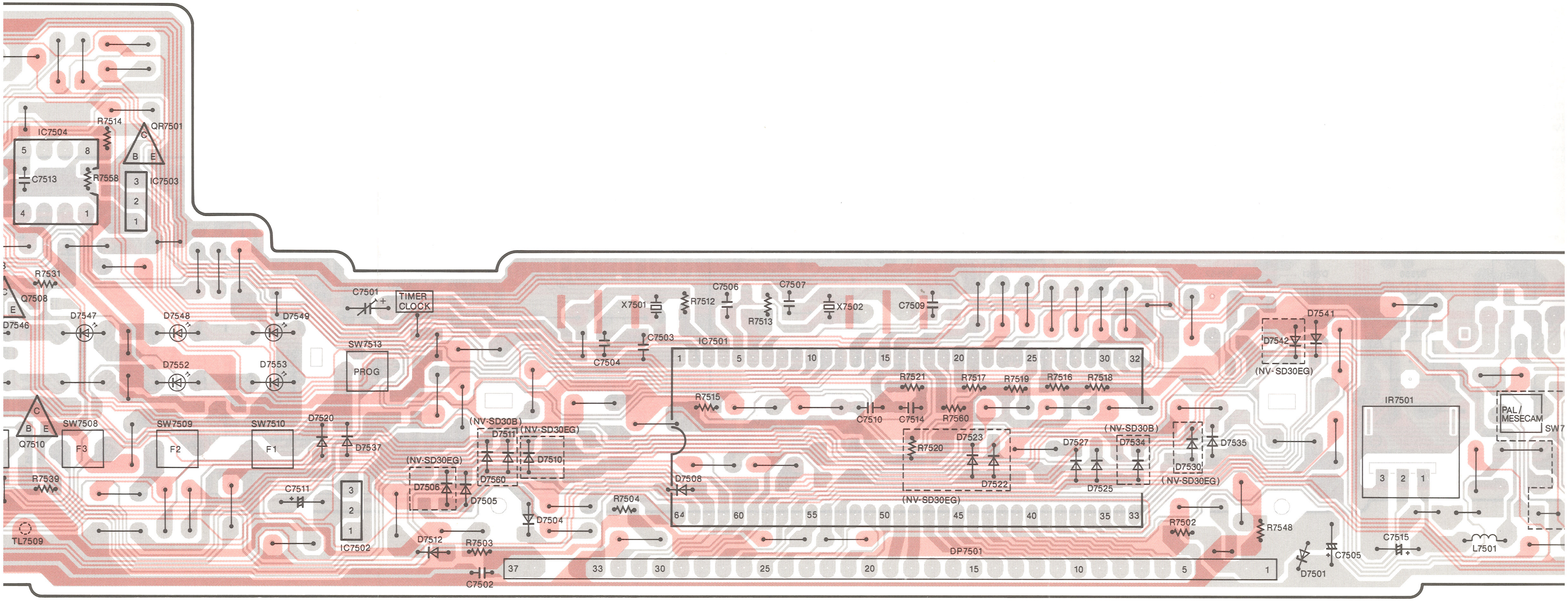
ADDRESS INFORMATION



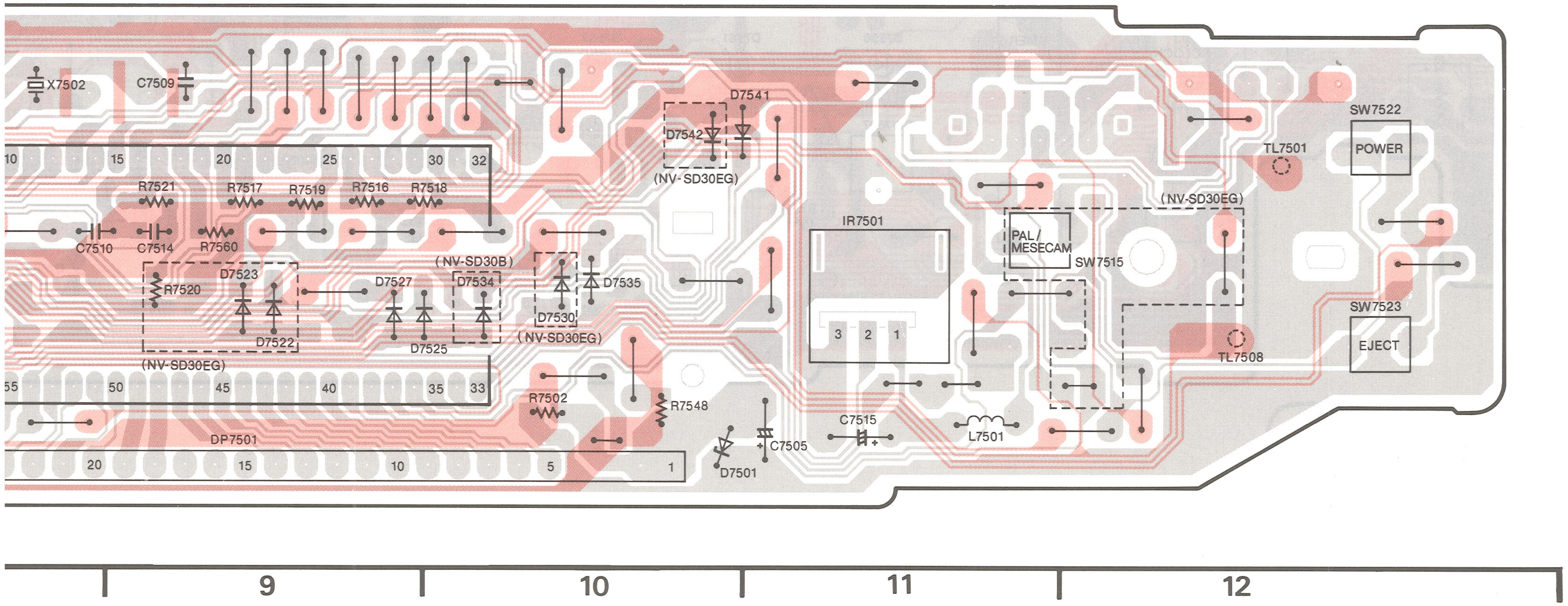
C
B
A
1
2
3
QR7851
B
C
E
R7803
R7804
R7802
R7852
R7805
IC7801
9
10
5
15
1
18
C7804
C7816
C7815
C7856
QR7852
C7855
D7851
R7801
C7802
C7801
C7806
C7805
C7803
R7806
R7851
C7852
C7851
X7851
C7853
C7854
IC7851
21
22
25
30
35
40
42
PS1

4-23. TIMER C.B.A. (VEP07701D: NV-SD30EG) (VEP07701F: NV-SD30B)


C
B
A
1
2
3
4
5
6
SW7502
STOP
SW7503
PLAY
P7505
7
5
1
TO SHUTTLE ENCODER
R7544
R7545
QR7505
QR7504
QR7503
QR7506
E
B
C
D7556
D7555
D7554
D7557
VR7501
PICTURE
P7502
7
9
15
10
14
JOG
SW7501
R7549
R7522
P7501
1
5
9
13
2
6
10
12
R7550
(NV-SD30EG)
R7552
(NV-SD30B)
R7553
R7551
(NV-SD30EG)
R7554
R7555
C7512
IC7504
8
4
C7513
R7558
R7514
QR7501
IC7503
3
2
1
R7538
TL7517
R7535
R7536
TL7519
TL7518
R7537
R7541
Q7508
R7531
D7546
D7547
D7548
D7549
C7501
TIMER CLOCK
SW7514
ADJ CLOCK
SW7511
TIMER REC
D7550
R7540
D7552
D7553
SW7513
PROG
SW7507
F4
Q7510
SW7508
F3
SW7509
F2
SW7510
F1
D7520
D7537
(NV-SD30B)
D7511
(NV-SD30EG)
D7506
D7505
D7560
SW7516
PRESET
SW7506
REC
R7539
TL7509
C7511
IC7502
D7512
R7503
C7502
37


IC7504
R7514
QR7501
C7513
R7558
IC7503
R7531
Q7508
D7546
D7547
D7548
D7549
D7552
D7553
SW7508
F3
SW7509
F2
SW7510
F1
Q7510
R7539
TL7509
C7501
TIMER CLOCK
SW7513
PROG
D7520
D7537
C7511
IC7502
(NV-SD30EG)
D7506
(NV-SD30B)
D7511
D7560
(NV-SD30EG)
D7510
D7505
D7504
D7512
R7503
C7502
R7504
C7504
C7503
X7501
R7512
C7506
R7513
C7507
X7502
C7509
IC7501
R7515
D7508
R7521
R7517
R7519
R7516
R7518
C7510
C7514
R7560
R7520
D7523
D7522
(NV-SD30EG)
D7527
D7525
(NV-SD30B)
D7534
D7530
D7535
(NV-SD30EG)
D7541
D7542
(NV-SD30EG)
IR7501
PAL/ MESECAM
SW7
R7502
R7548
D7501
C7505
C7515
L7501
DP7501

5 | 6 | 7 | 8 | 9 | 10 | 11

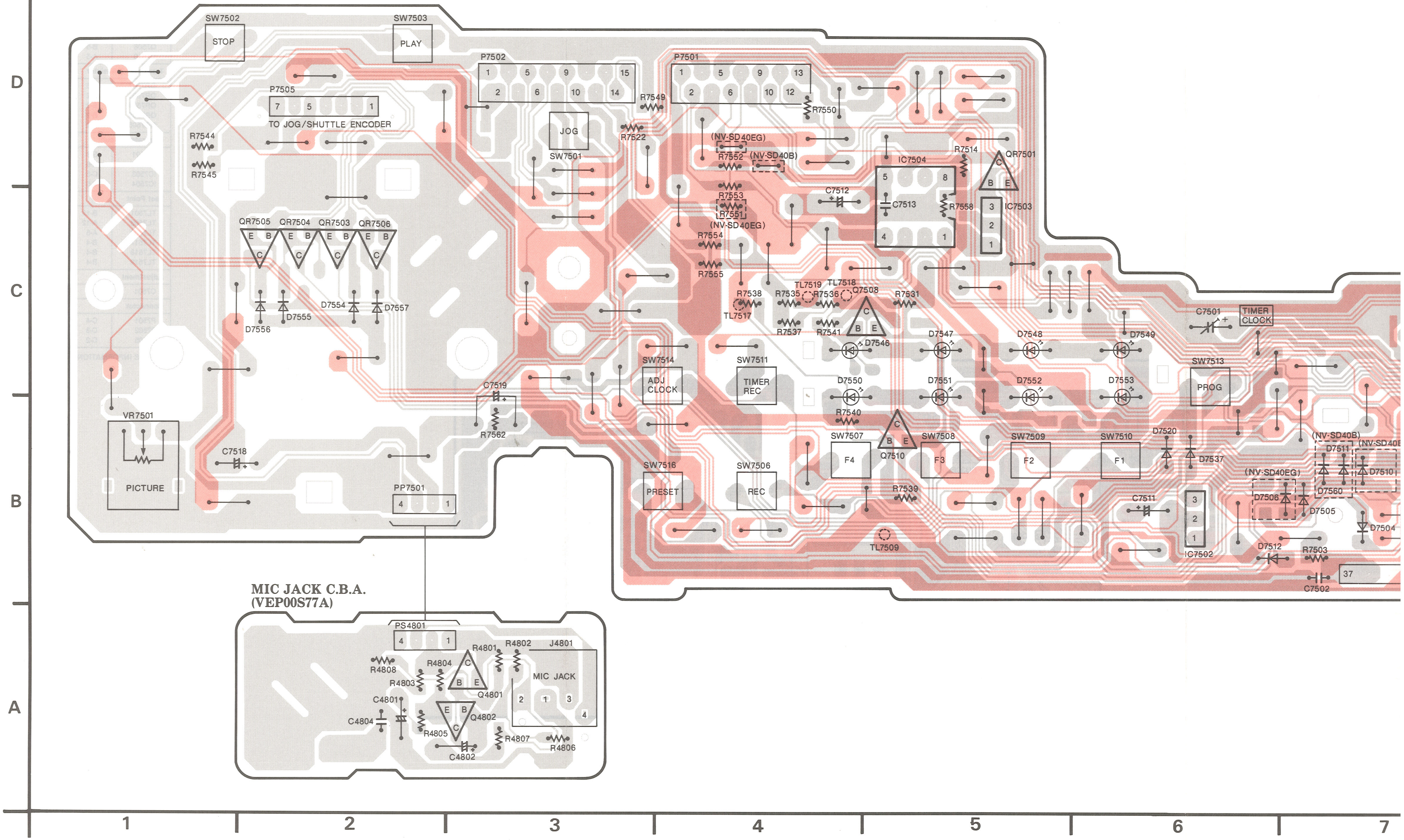

X7502
C7509
10
15
20
25
30
32
R7521
R7517
R7519
R7516
R7518
C7510
C7514
R7560
R7520
D7523
D7522
(NV-SD30EG)
D7527
D7525
(NV-SD30B)
D7534
D7530
(NV-SD30EG)
D7535
D7541
D7542
(NV-SD30EG)
55
50
45
40
35
33
DP7501
20
15
10
5
1
R7502
R7548
D7501
C7505
C7515
L7501
IR7501
3
2
1
PAL /
MESECAM
SW7515
(NV-SD30EG)
TL7501
TL7508
SW7522
POWER
SW7523
EJECT
9
10
11
12

TIMER C.B.A.	
Transistor	
Q7508	B-5
Q7510	A-5
Transistor & Resistor	
QR7501	C-5
QR7503	B-2
QR7504	B-2
QR7505	B-2
QR7506	B-2
Integrated Circuit	
IC7501	B-8
IC7502	A-6
IC7503	C-5
IC7504	C-5
Test Point	
TL7501	B-12
TL7508	A-12
TL7509	A-5
TL7517	B-4
TL7518	B-4
TL7519	B-4
Adjustment	
C7501	B-6
Connector	
P7501	C-4
P7502	C-3
P7505	C-2

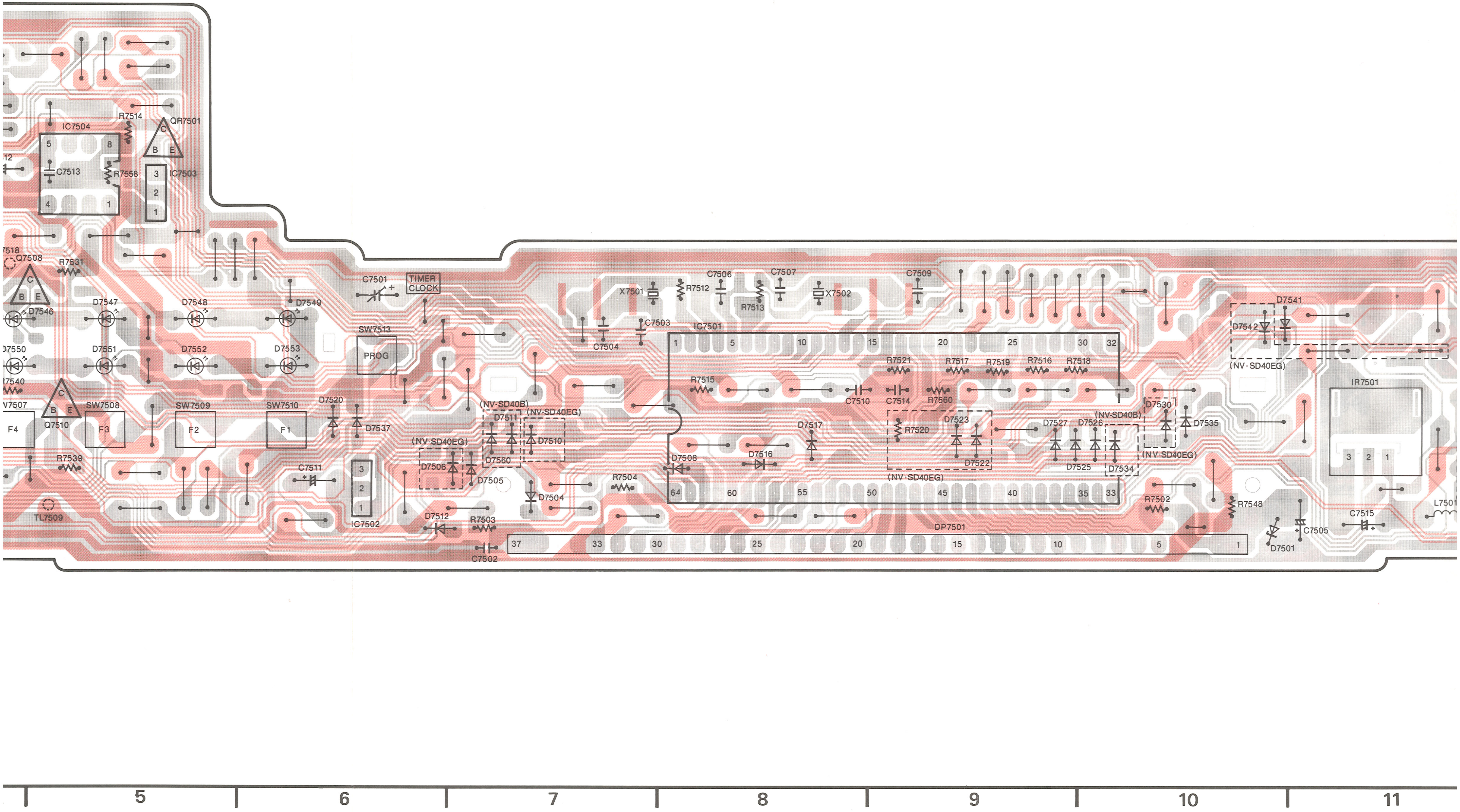
ADDRESS INFORMATION

4-24. TIMER C.B.A. (VEP07699D: NV-SD40EG) (VEP07699F: NV-SD40B) & OPERATION C.B.A. (VEP07716A: NV-SD40EG/B)

TIMER C.B.A. (VEP007699D: NV-SD40EG) (VEP07699F: NV-SD40B)


D
C
B
A
1
2
3
4
5
6
7
SW7502
STOP
SW7503
PLAY
P7505
7
5
1
TO JOG/SHUTTLE ENCODER
P7502
1
5
9
15
2
6
10
14
P7501
1
5
9
13
2
6
10
12
R7549
R7550
R7522
JOG
SW7501
R7544
R7545
(NV-SD40EG)
R7552
(NV-SD40B)
R7553
R7551
(NV-SD40EG)
R7554
R7555
C7512
IC7504
5
8
4
1
C7513
R7558
R7514
QR7501
C
B
E
IC7503
3
2
1
QR7505
QR7504
QR7503
QR7506
E
B
C
D7555
D7554
D7557
D7556
R7538
TL7517
R7535
TL7519
TL7518
R7536
Q7508
R7531
R7537
R7541
D7546
D7547
D7548
D7549
C7501
TIMER CLOCK
SW7514
ADJ CLOCK
SW7511
TIMER REC
D7550
D7551
D7552
D7553
SW7513
PROG
C7519
R7562
VR7501
PICTURE
C7518
PP7501
4
1
R7540
SW7507
F4
Q7510
SW7508
F3
SW7509
F2
SW7510
F1
D7520
D7537
(NV-SD40B)
D7511
(NV-SD40B)
D7510
(NV-SD40EG)
D7506
D7560
D7505
D7504
SW7516
PRESET
SW7506
REC
R7539
TL7509
C7511
IC7502
3
2
1
D7512
R7503
C7502
37
MIC JACK C.B.A.
(VEP00S77A)
PS4801
4
1
R4801
R4802
J4801
R4808
R4804
R4803
Q4801
MIC JACK
2
1
3
4
C4801
C4804
Q4802
R4805
C4802
R4807
R4806

07716A: NV-SD40EG/B)


IC7504
R7514
QR7501
C7513
R7558
IC7503
Q7508
R7531
D7546
D7547
D7548
D7549
D7550
D7551
D7552
D7553
R7540
V7507
Q7510
SW7508
SW7509
SW7510
F4
F3
F2
F1
R7539
TL7509
D7520
D7537
C7511
IC7502
C7501
TIMER CLOCK
SW7513
PROG
(NV-SD40B)
D7511
(NV-SD40EG)
D7510
D7560
(NV-SD40EG)
D7506
D7505
D7504
D7512
R7503
C7502
X7501
R7512
C7506
R7513
C7507
X7502
C7509
C7503
C7504
IC7501
R7504
R7515
R7521
R7517
R7519
R7516
R7518
C7510
C7514
R7560
D7517
D7508
D7516
R7520
D7523
D7522
(NV-SD40EG)
D7527
D7526
D7525
(NV-SD40B)
D7530
D7535
D7534
(NV-SD40EG)
D7541
D7542
(NV-SD40EG)
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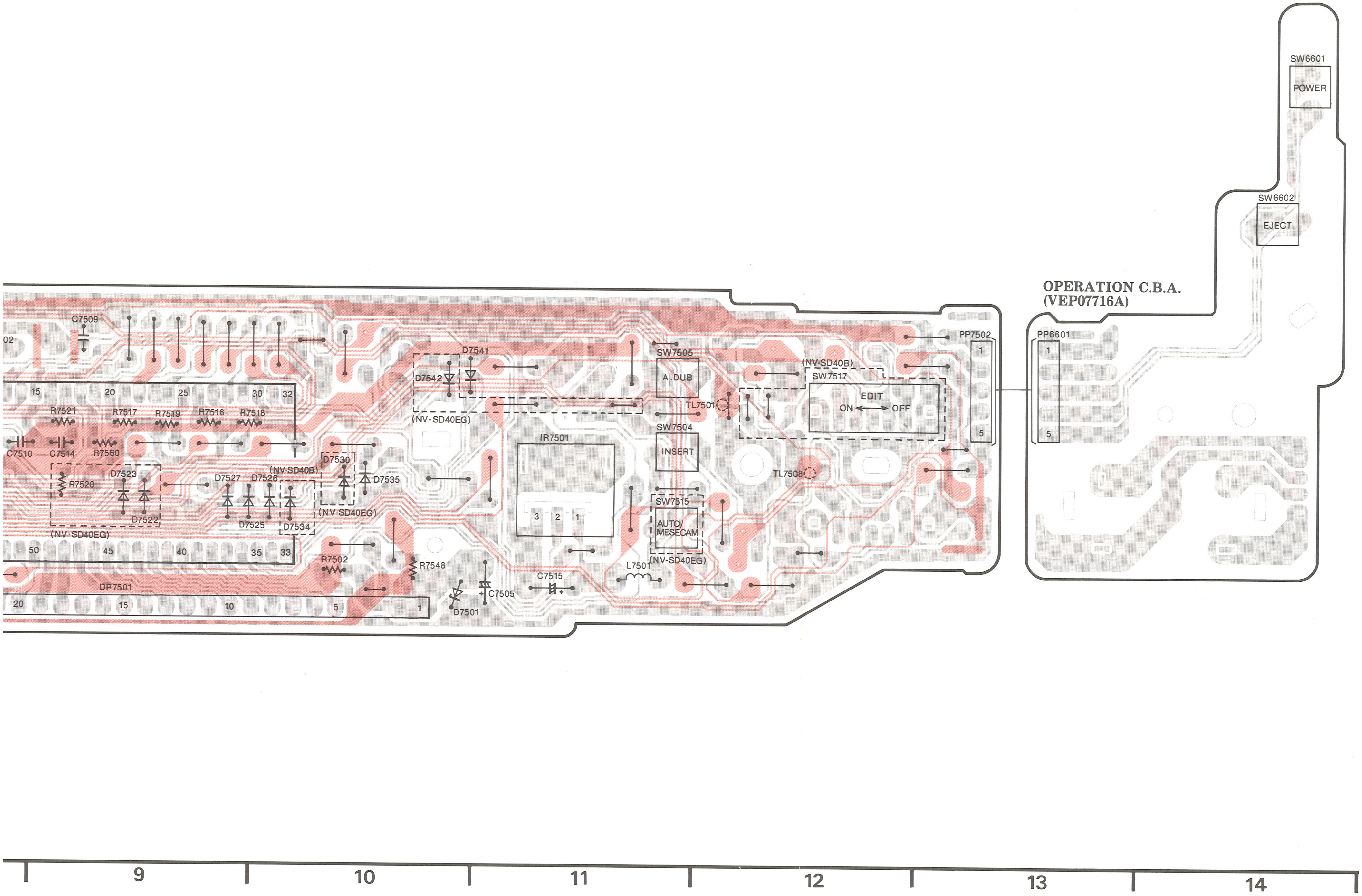
L7501
DP7501
5
6
7
8
9
10
11


SW6601
POWER
SW6602
EJECT
OPERATION C.B.A.
(VEP07716A)
PP6601
1
5
PP7502
1
5
C7509
D7541
D7542
(NV-SD40EG)
SW7505
A.DUB
(NV-SD40B)
SW7517
EDIT
ON
OFF
TL7501
SW7504
INSERT
IR7501
3
2
1
TL7508
SW7515
AUTO/
MESECAM
(NV-SD40EG)
L7501
C7515
C7505
D7501
R7548
R7502
DP7501
R7521
R7517
R7519
R7516
R7518
C7510
C7514
R7560
R7520
D7523
D7522
(NV-SD40EG)
D7527
D7526
D7525
(NV-SD40B)
D7534
D7530
D7535
(NV-SD40EG)
02
15
20
25
30
32
50
45
40
35
33
20
15
10
5
1
9
10
11
12
13
14

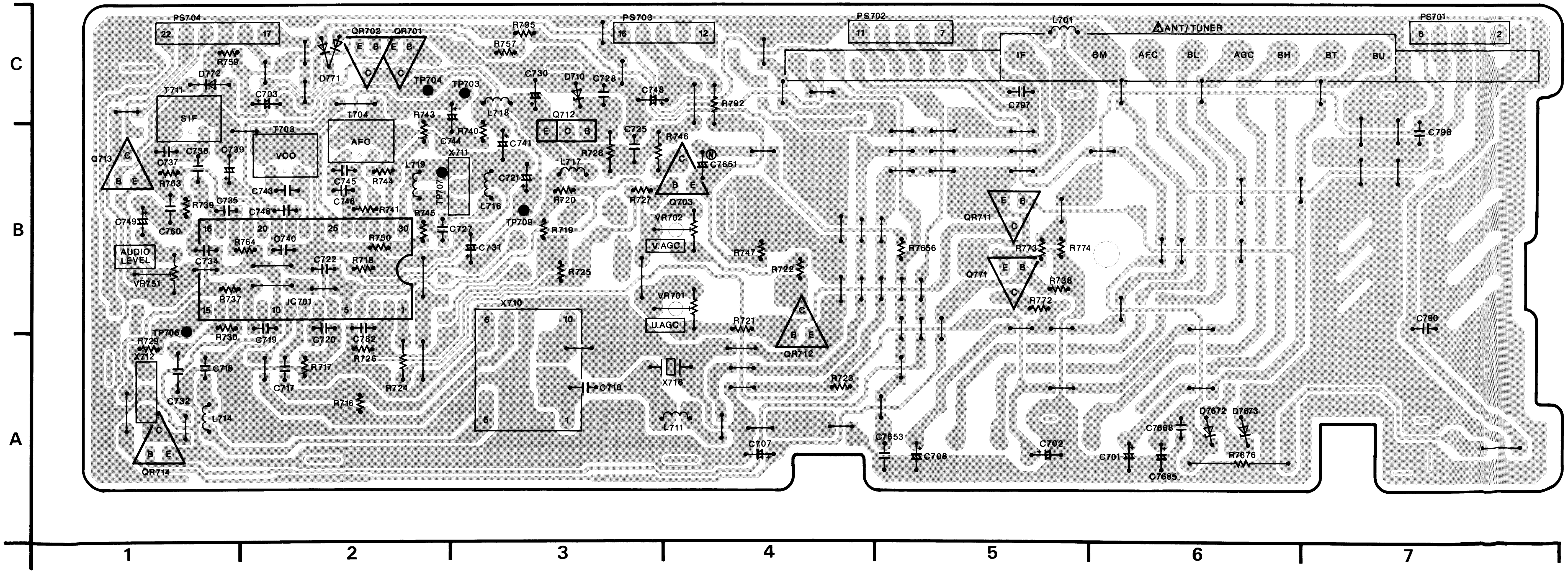
TIMER C.B.A.	
Transistor	
Q4801	A-3
Q4802	A-3
Q7508	C-5
Q7510	B-5
Transistor & Resistor	
QR7501	D-5
QR7503	C-2
QR7504	C-2
QR7505	C-2
QR7506	C-2
Integrated Circuit	
IC7501	C-8
IC7502	B-6
IC7503	C-5
IC7504	D-5
Test Point	
TL7501	C-12
TL7508	B-12
TL7509	B-5
TL7517	C-4
TL7518	C-4
TL7519	C-4
Adjustment	
C7501	C-6
Connector	
P7501	D-4
P7502	D-3
P7505	D-2
PP6601	C-13
PP7501	B-2
PP7502	C-13
PS4801	A-2

ADDRESS INFORMATION

4-25. TV DEMODULATOR PACK C.B.A. (VEP07726A: NV-SD30EG, SD40EG)

TV DEMODULATOR PACK C.B.A.			
Transistor		TP706	B-1
Q703	B-4	TP707	B-2
Q712	B-3	TP709	B-3
Q713	B-1	**Adjustment**	
Q771	B-5	T703	B-2
Transistor & Resistor		T704	B-2
QR701	C-2	T711	C-1
QR702	C-2	VR701	B-4
QR711	B-5	VR702	B-4
QR712	A-4	VR751	B-1
QR714	A-1	**Connector**	
Integrated Circuit		PS701	C-7
IC701	B-2	PS702	C-4
Test Point		PS703	C-3
TP703	C-3	PS704	C-1
TP704	C-2		

ADDRESS INFORMATION



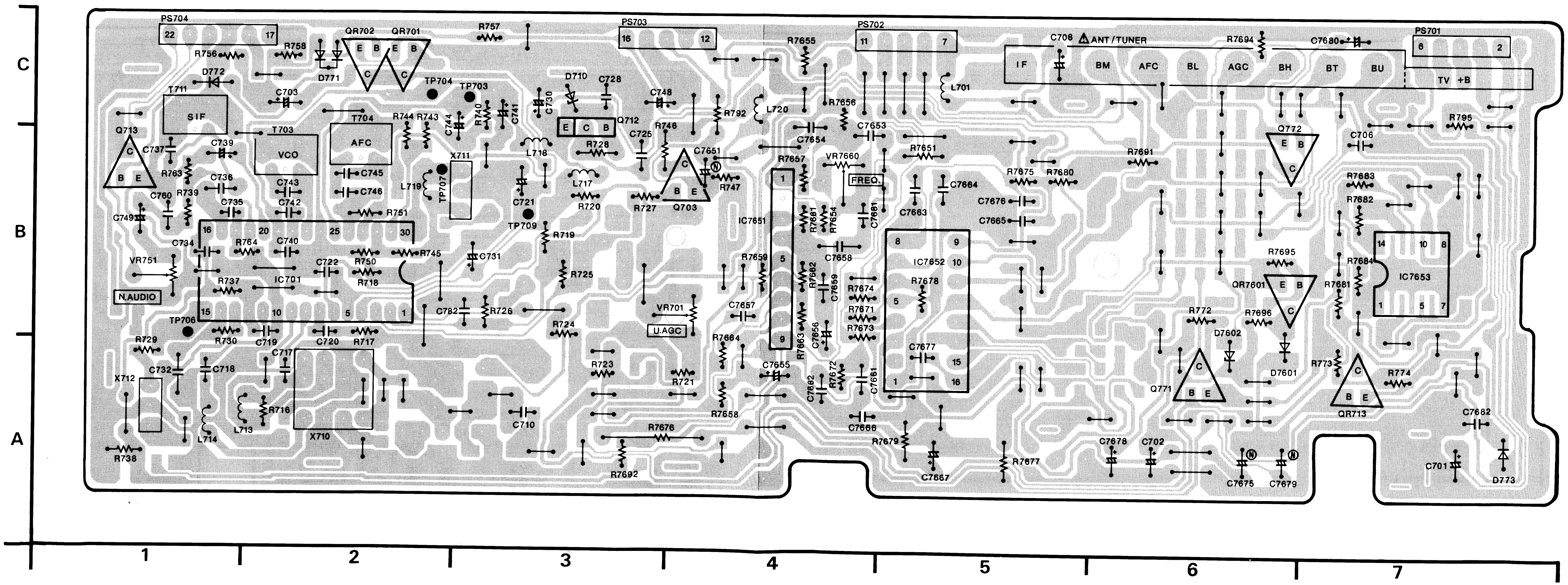
C
B
A
1
2
3
4
5
6
7
PS704
22
17
PS703
16
12
PS702
11
7
PS701
6
2
L701
ANT/TUNER
IF
BM
AFC
BL
AGC
BH
BT
BU
QR702
QR701
E B E B
C C
R759
D772
D771
T711
SIF
C703
T704
AFC
T703
VCO
TP704
TP703
R795
R757
R743
L718
C730
D710
C726
C748
R792
C797
C798
Q712
E C B
C725
R746
C7651
R740
C741
C744
X711
L719
R728
L717
Q713
C736
C737
C739
R763
C745
R744
C746
C743
TP707
C721
L716
R720
R727
Q703
R739
C735
C748
R741
R745
TP709
VR702
C749
C760
AUDIO LEVEL
16
20
25
30
R764
C740
R750
C727
R719
C731
V.AGC
QR711
E B C
R773
R774
R7656
R747
R722
C734
C722
R718
R725
Q771
R738
VR751
R737
IC701
15
10
5
1
X710
6
10
5
1
VR701
U.AGC
R772
R721
QR712
TP706
R729
X712
R730
C719
C720
C782
R726
C790
C718
R717
C717
R724
C710
X716
R723
C732
L714
R716
L711
D7672
D7673
C7668
C7653
C707
C708
C702
C701
C7685
R7676
QR714

4-26. TV DEMODULATOR PACK C.B.A. (VEP07645S: NV-SD30B, SD40B)

TV DEMODULATOR PACK C.B.A.

Transistor		Test Point	
Q703	B-4	TP703	C-3
Q712	C-3	TP704	C-2
Q713	B-1	TP706	B-1
Q771	A-6	TP707	B-2
Q772	C-6	TP709	B-3
Transistor & Resistor		**Adjustment**	
QR701	C-2	T703	B-2
QR702	C-2	T704	B-2
QR713	A-7	T711	C-1
QR7601	B-6	VR701	B-4
Integrated Circuit		VR751	B-1
IC701	B-2	VR7660	B-4
IC7651	B-4	**Connector**	
IC7652	B-5	PS701	C-7
IC7653	B-7	PS702	C-5
		PS703	C-3
		PS704	C-1

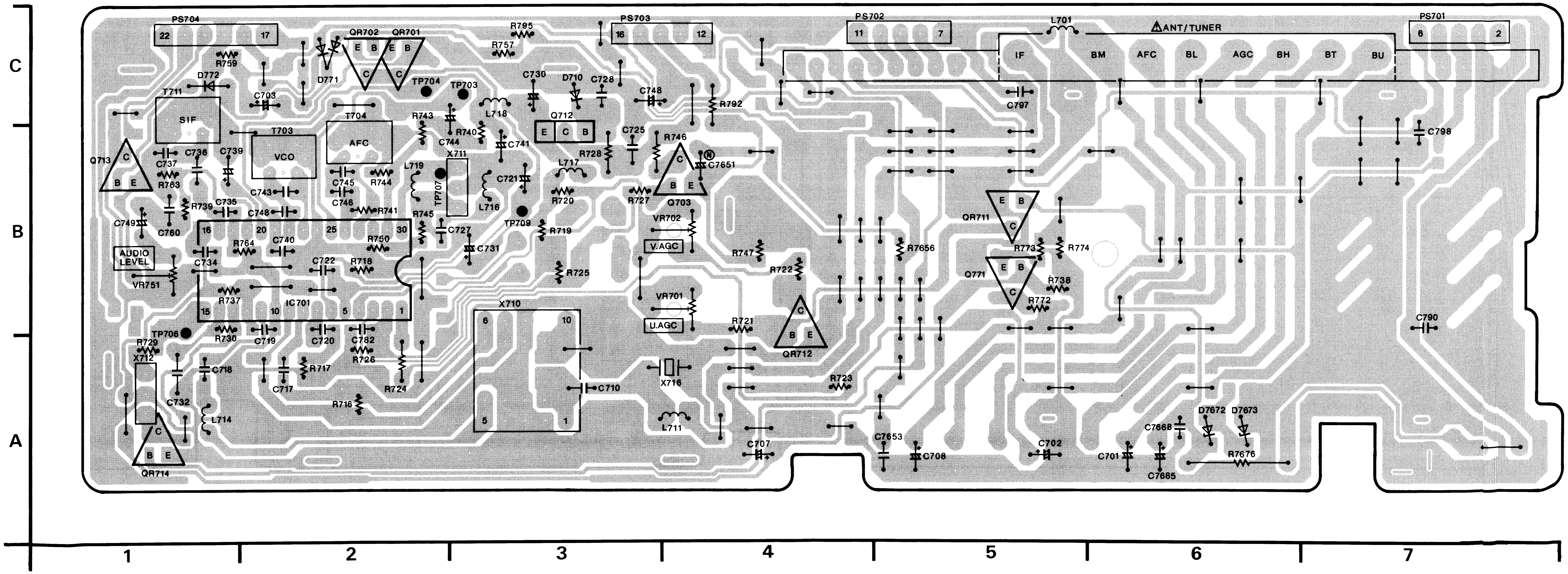
ADDRESS INFORMATION


C
B
A
1
2
3
4
5
6
7
PS704
22
17
R756
R758
QR702
QR701
E B E B
C C
D772
D771
T711
SIF
C703
TP704
TP703
T704
AFC
T703
VCO
Q713
C737
C739
R763
C736
C760
R739
C735
C749
C743
C742
C745
C746
R751
VR751
C734
R764
C740
16 20 25 30
R745
IC701
C722
R750
R718
R737
N.AUDIO
TP706
15 10 5 1
R730
C719
C720
R717
R729
C732
C718
C717
R716
X712
L714
L713
X710
R738
R757
R744 R743
C744
R740
C741
X711
L719
TP707
C721
TP709
R719
C731
R725
C782
R726
R724
C710
D710
C728
C730
L718
L717
R720
Q712
E C B
R728
C725
C748
R746
C7651
R747
R727
Q703
R792
L720
PS703
16 12
R723
R721
VR701
U.AGC
R7676
R7692
R7655
R7656
C7654
C7653
R7657
VR7660
FREQ.
IC7651
R7661
R7654
C7681
R7659
R7662
C7658
C7659
R7674
R7671
R7673
C7657
R7664
R7663
C7656
C7655
C7662
R7672
C7661
R7658
C7666
R7679
C7667
PS702
11 7
L701
R7651
C7664
C7663
IC7652
8 9 10 5 1 15 16
R7678
C7677
C708
ANT/TUNER
IF BM AFC BL AGC BH BT BU
TV +B
R7694
C7680
PS701
6 2
R7675
R7680
C7676
C7665
R7691
Q772
C706
R795
R7683
R7682
R7695
QR7601
R7696
R7684
R7681
IC7653
14 10 8
1 5 7
R772
D7602
Q771
D7601
R773
QR713
R774
C7682
C7678
C702
R7677
C7675
C7679
C701
D773

4-25. TV DEMODULATOR PACK C.B.A. (VEP07726A: NV-SD30EG, SD40EG)

TV DEMODULATOR PACK C.B.A.	
Transistor	
Q703	B-4
Q712	B-3
Q713	B-1
Q771	B-5
Transistor & Resistor	
QR701	C-2
QR702	C-2
QR711	B-5
QR712	A-4
QR714	A-1
Integrated Circuit	
IC701	B-2
Test Point	
TP703	C-3
TP704	C-2
TP706	B-1
TP707	B-2
TP709	B-3
Adjustment	
T703	B-2
T704	B-2
T711	C-1
VR701	B-4
VR702	B-4
VR751	B-1
Connector	
PS701	C-7
PS702	C-4
PS703	C-3
PS704	C-1

ADDRESS INFORMATION

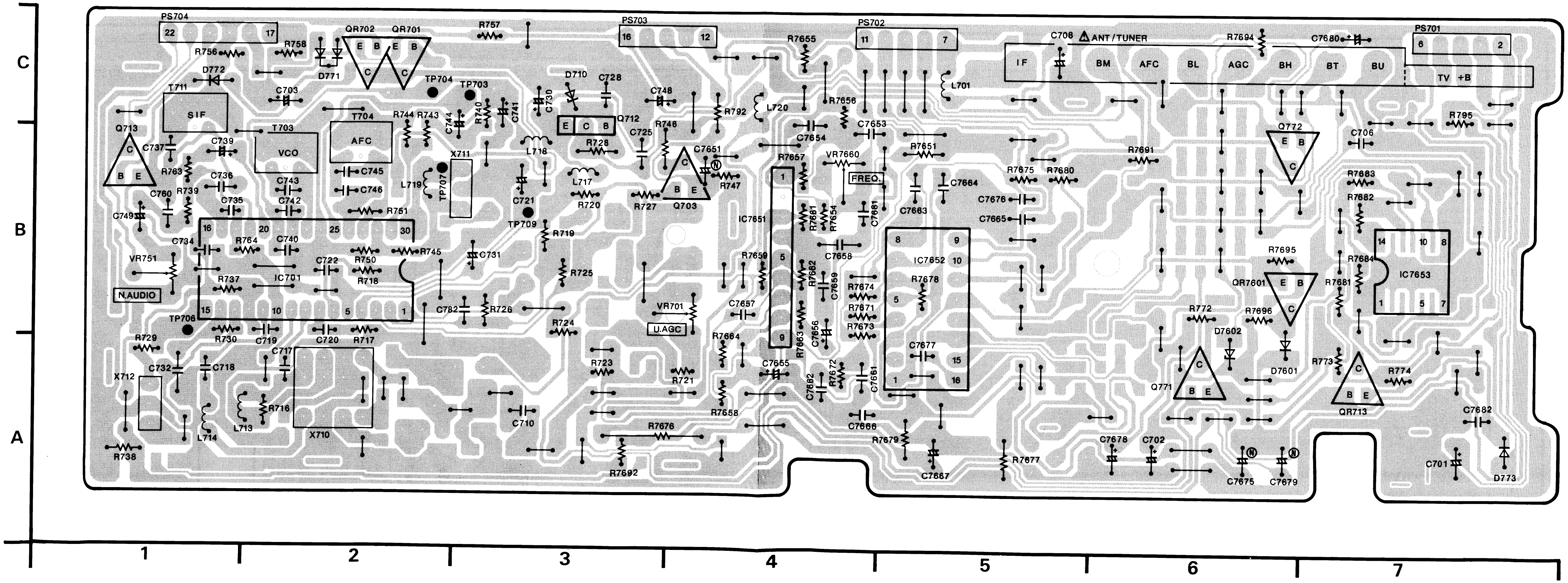

C
B
A
1
2
3
4
5
6
7
PS704
22
17
PS703
16
12
PS702
11
7
PS701
6
2
L701
⚠ANT/TUNER
IF
BM
AFC
BL
AGC
BH
BT
BU
QR702
QR701
E B E B
C C
D771
D772
R759
C703
T711
SIF
T703
VCO
T704
AFC
TP704
TP703
R795
R757
C730
D710
C728
C748
R792
C797
C798
Q712
E C B
C725
R746
C7651
Q703
R743
C744
R740
C741
L718
X711
L719
TP707
L716
C721
L717
R728
R720
R727
VR702
V.AGC
TP709
R719
C727
C731
R725
R745
R741
C745
R744
C746
C743
C748
C735
C736
C737
C739
R763
R739
Q713
C749
C760
AUDIO LEVEL
VR751
IC701
16
20
25
30
15
10
5
1
R764
C740
R750
C734
C722
R718
R737
TP706
R729
X712
R730
C719
C720
C782
R726
C718
C732
C717
R717
R724
R716
L714
QR714
X710
6
10
5
1
C710
VR701
U.AGC
X716
L711
R721
QR712
R747
R722
R7656
R723
C707
C7653
C708
QR711
R773
R774
Q771
R738
R772
C702
C701
C7668
C7685
D7672
D7673
R7676
C790

4-26. TV DEMODULATOR PACK C.B.A. (VEP07645S: NV-SD30B, SD40B)

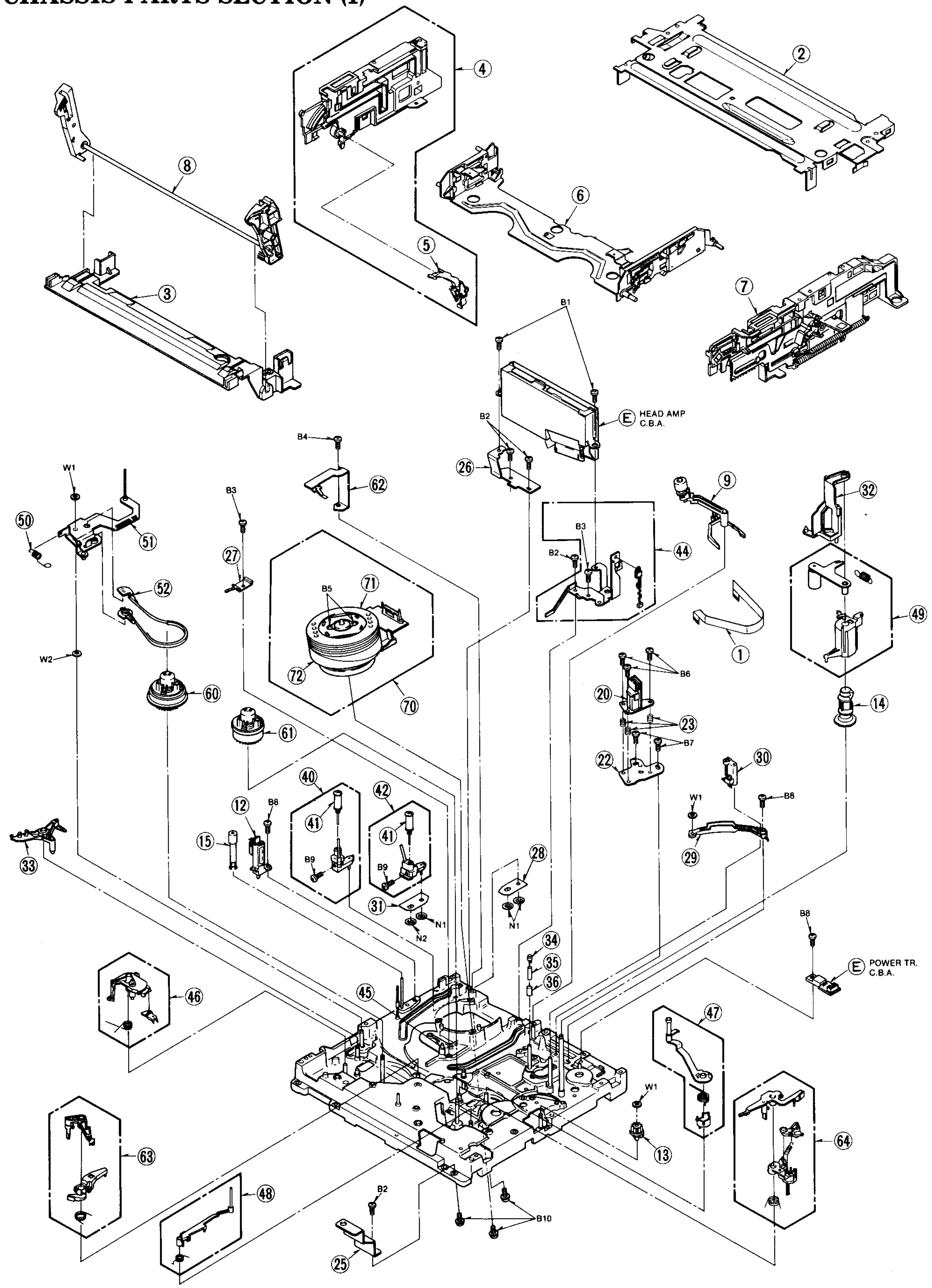
TV DEMODULATOR PACK C.B.A.

Transistor		Test Point	
Q703	B-4	TP703	C-3
Q712	C-3	TP704	C-2
Q713	B-1	TP706	B-1
Q771	A-6	TP707	B-2
Q772	C-6	TP709	B-3
Transistor & Resistor		**Adjustment**	
QR701	C-2	T703	B-2
QR702	C-2	T704	B-2
QR713	A-7	T711	C-1
QR7601	B-6	VR701	B-4
Integrated Circuit		VR751	B-1
IC701	B-2	VR7660	B-4
IC7651	B-4	**Connector**	
IC7652	B-5	PS701	C-7
IC7653	B-7	PS702	C-5
		PS703	C-3
		PS704	C-1

ADDRESS INFORMATION


C
B
A
1
2
3
4
5
6
7
PS704
22
17
R756
R758
D772
D771
QR702
QR701
E
B
C
R757
PS703
16
12
R7655
PS702
11
7
C708
ANT/TUNER
R7694
C7680
PS701
6
2
IF
BM
AFC
BL
AGC
BH
BT
BU
TV +B
T711
SIF
C703
T704
T703
TP704
TP703
D710
C728
C748
R792
L720
R7656
L701
Q713
C737
C739
VCO
AFC
R744
R743
C744
R740
C741
C730
Q712
R746
C725
C7654
C7653
R795
Q772
C706
R763
C736
C745
C746
X711
L718
R728
C7651
R7657
VR7660
R7651
R7691
R7683
C760
R739
C743
L719
TP707
L717
R747
FREQ.
C7664
R7675
R7680
R7682
C749
C735
C742
R751
C721
R720
R727
Q703
IC7651
R7661
R7654
C7681
C7663
C7676
C7665
16
20
25
30
TP709
R719
C734
R764
C740
R745
C731
R7659
C7658
8
9
IC7652
10
R7695
R7684
14
10
8
IC7653
VR751
C722
R750
R718
R725
R7662
C7659
R7678
QR7601
R7681
R737
IC701
R7674
5
N.AUDIO
15
10
5
1
C782
R726
VR701
C7657
R7671
1
5
7
TP706
R730
C719
C720
R717
R724
U.AGC
R7664
R7663
C7656
R7673
R772
R7696
R729
C717
C7677
D7602
R773
X712
C732
C718
R723
R721
C7655
C7662
R7672
C7661
15
16
Q771
D7601
QR713
R774
R716
C7682
L713
X710
C710
R7658
L714
R7676
C7666
R7679
R738
R7692
C7667
R7677
C7678
C702
C7675
C7679
C701
D773

SECTION 5
EXPLODED VIEWS & PARTS LIST
5-1. EXPLODED VIEW & MECHANICAL REPLACEMENT PARTS LIST
❶ CHASSIS PARTS SECTION (1)



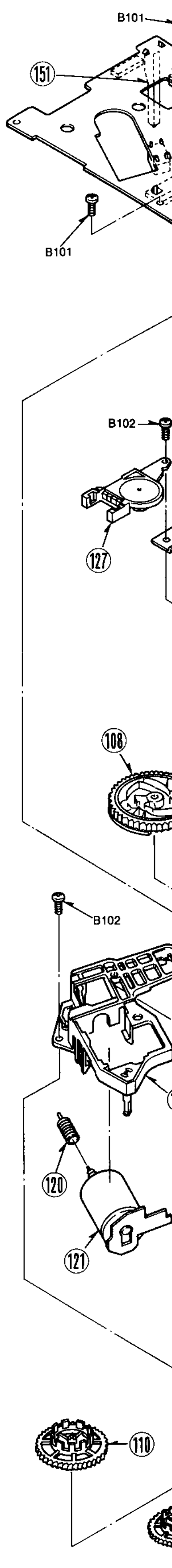
Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VWJ0653	FLEXIBLE CABLE (6P)	1	P4003-P1501
2(1)		VMA8644	TOP PLATE	1	
3(1)		VMA8787	CASSETTE GUIDE	1	
4(1)		VXA4660	SIDE PLATE (L) UNIT	1	
5(1)		VXL2250	OPENER LEVER UNIT	1	
6(1)		VXA4661	CASSETTE HOLDER PLATE UNIT	1	
7(1)		VXA4806	SIDE PLATE (R) UNIT	1	
8(1)		VXP1339	MAIN SHAFT UNIT	1	
9(1)		VXL2251	CLEANER ARM UNIT	1	
12(1)		VBS0050	FE HEAD	1	
13(1)		VDG0871	CARRIAGE CONNECTION GEAR	1	
14(1)		VDG0886	PINCH CAM GEAR	1	
15(1)		VXP1402	IMPEDANCE ROLLER UNIT	1	
20(1)		VED0205	A/C HEAD (1) UNIT	1	
22(1)		VMA8624	A/C HEAD BASE	1	
23(1)		VMB2515	A/C HEAD SPRING	3	
25(1)		VMA8761	MOUNT ANGLE	1	
26(1)		VMA8763	HEAD AMP MOUNT ANGLE (L)	1	
27(1)		VMC0917	EARTH SPRING	1	
28(1)		VMA8874	INCLIND BASE HOLDER (S)	1	
29(1)		VMD2078	P5 STOPPER BASE	1	
30(1)		VXA4927	P5 POST STOPPER	1	
31(1)		VMA8873	INCLIND BASE HOLDER (T)	1	
32(1)		VMD2101	OPENER PIECE	1	
33(1)		VML2776	TENSION SPRING ARM	1	
34(1)		VMX1544	P4 UPPER LIMITER	1	
35(1)		VMX2175	P4 SLEEVE	1	
36(1)		VMX2176	P4 LOWER LIMITER	1	
40(1)		VXA4982	INCLIND BASE (S) UNIT	1	
41(1)		VXP1415	ROLLER POST UNIT	2	
42(1)		VXA4984	INCLIND BASE (T) UNIT	1	
44(1)		VXA4974	HEAD AMP MOUNT ANGLE (R) U.	1	
45(1)		VMS5383	CASSETTE POSITION FIXTURE	1	
46(1)		VXL2310	REVIEW ARM UNIT	1	
47(1)		VXL2306	P5 ARM UNIT	1	
48(1)		VXL2243	TAKE UP TENSION REGULATOR ARM UNIT	1	
49(1)		VXL2246	PINCH ARM UNIT	1	
50(1)		VMB2434	TENSION SPRING	1	
51(1)		VXL2309	TENSION ARM (1) UNIT	1	
52(1)		VXZ0310	TENSION BAND UNIT	1	
60(1)		VXR0221	SUPPLY REEL TABLE UNIT	1	
61(1)		VXR0222	TAKE UP REEL TABLE UNIT	1	
62(1)		VXS0114	EARTH PLATE	1	
63(1)		VXZ0312	SUPPLY BRAKE ARM UNIT	1	
64(1)		VXZ0313	TAKE UP BRAKE ARM UNIT	1	
70(1)		VEG1023	CYLINDER UNIT	1	NV-SD40EG/B
70(1)		VEG1024	CYLINDER UNIT	1	NV-SD30EG/B
71(1)		VEH0598	UPPER CYLINDER UNIT	1	NV-SD40EG/B
71(1)		VEH0599	UPPER CYLINDER UNIT	1	NV-SD30EG/B
72(1)		VJR0082	RT TERMINAL	1	
B1(1)		VHD0773	SCREW	2	
B2(1)		XTV26+6F	SCREW	4	
B3(1)		XTV26+4F	SCREW	2	
B4(1)		XTN3+6FFZ	SCREW	1	
B5(1)		VHD0425	SCREW	2	
B6(1)		VHD0762	SCREW	3	
B7(1)		XTV26+6FZ	SCREW	2	
B8(1)		XTV26+8F	SCREW	3	
B9(1)		VHD0760	SCREW	2	
B10(1)		VHD0342	SCREW	3	
N1(1)		VHN0192	NUT	3	
N2(1)		VHN0193	NUT	1	
W1(1)		VMX2208	WASHER	3	
W2(1)		XWGV26D5G	WASHER	1	

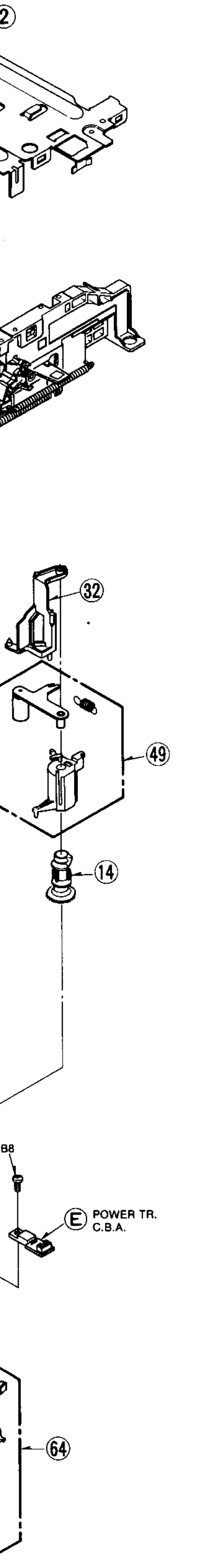
Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
100(2)		VEK5927	STATOR UNIT	1	
101(2)		VBK0061	FG HEAD	1	
103(2)		VMA8765	ROTOR STOPPER	1	
104(2)		VMX1927	OIL SEAL	2	
105(2)		VXD0140	HOUSING UNIT	1	
106(2)		VXP1350	ROTOR UNIT	1	
107(2)		VXQ0297	THRUST SCREW UNIT	1	
108(2)		VDG0913	MAIN CAM GEAR	1	
109(2)		VDG0861	SUPPLY REEL GEAR	1	
110(2)		VDG0862	TAKE UP REEL GEAR	1	
111(2)		VDG0868	WORM WHEEL GEAR	1	
112(2)		VDG0885	SUB CAM GEAR	1	
113(2)		VDV0235	TIMING BELT	1	
120(2)		VDG0866	WORM GEAR	1	
121(2)		VEM0427	LOADING MOTOR (1) UNIT	1	
123(2)		VMD1942	MOTOR BRACKET	1	
126(2)		VML2725	IDLER CONTROL LEVER	1	
127(2)		VSS0365	MODE SW	1	
128(2)		VXA4797	SS BRAKE BASE UNIT	1	
129(2)		VXA4799	TENSION ROLLER UNIT	1	
140(2)		VXL2229	IDLER ARM UNIT	1	
141(2)		VXL2230	DIRECT LEVER UNIT	1	
142(2)		VXL2299	SUPPLY LOADING ARM UNIT	1	
143(2)		VXL2300	TAKE UP LOADING ARM UNIT	1	
144(2)		VXL2307	MAIN LEVER UNIT	1	
145(2)		VXP1409	CENTRE CLUTCH	1	
150(2)		VMD1926	LED HOLDER	1	
151(2)		VMD1927	PHOTO TRANSISTOR HOLDER	2	
152(2)		VES0695	SAFETY TAB SW	1	
153(2)		VJB00S63	MECHANISM CONNECTION C.B.	1	ELECTRICAL PARTS ON THE C.B.A. IS LISTED ON ELECTRICAL PARTS LIST.
154(2)		VMD2029	REEL SHAFT GUIDE	1	
B101		VHD0772	SCREW	4	
B102		XTV26+8F	SCREW	2	
B103		XTV26+6F	SCREW	3	
B104		VHD0753	SCREW	3	
B105		VHD0754	SCREW	1	
B106		XSB26+4FZ	SCREW	1	
W101		VMX2208	WASHER	3	

❷ CHASSI



PARTS LIST



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2.IMPORTANT SAFETY NOTICE
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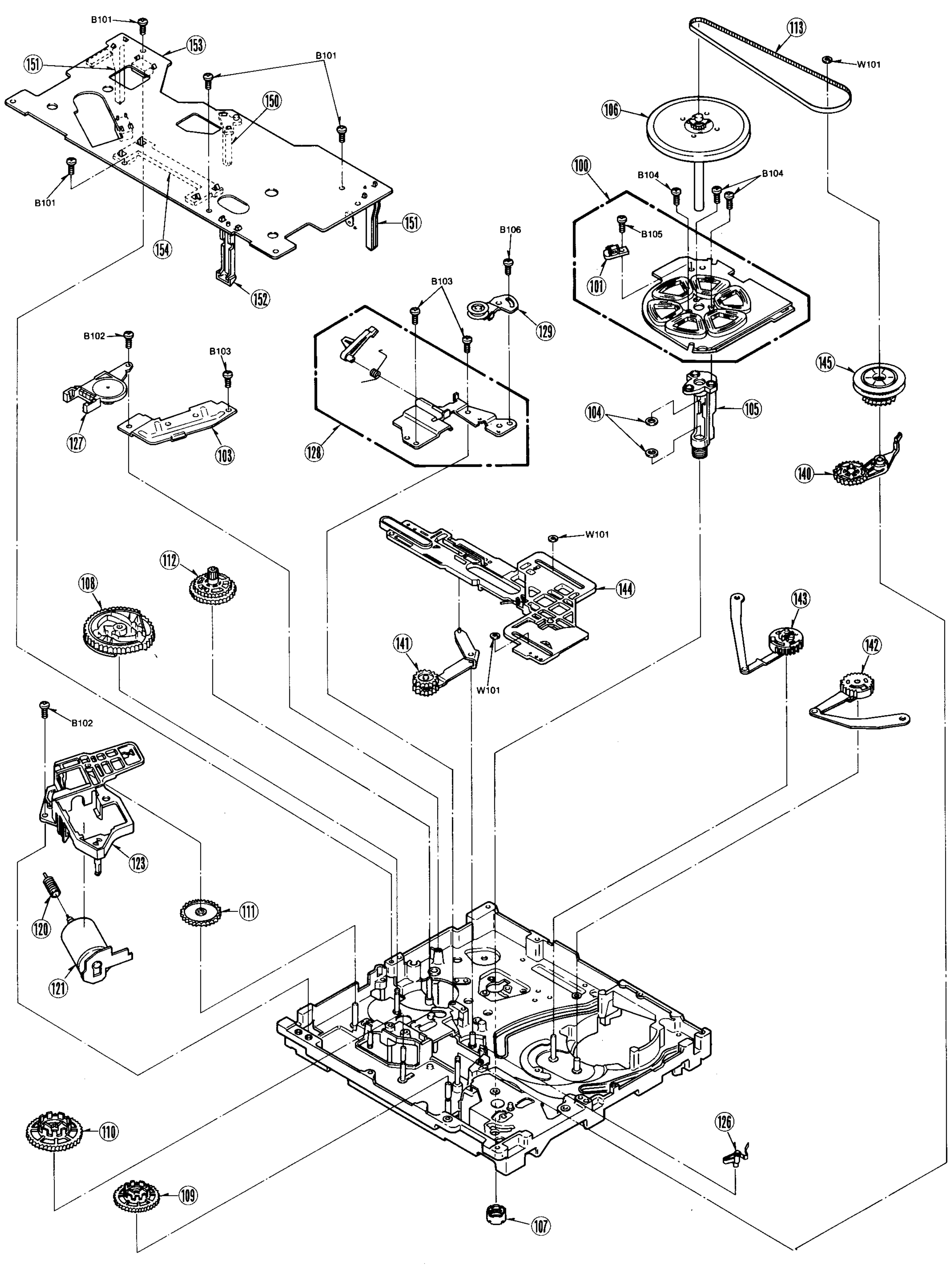
Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VWJ0653	FLEXIBLE CABLE (6P)	1	P4003-P1501
2(1)		VMA8644	TOP PLATE	1	
3(1)		VMA8787	CASSETTE GUIDE	1	
4(1)		VXA4660	SIDE PLATE (L) UNIT	1	
5(1)		VXL2250	OPENER LEVER UNIT	1	
6(1)		VXA4661	CASSETTE HOLDER PLATE UNIT	1	
7(1)		VXA4806	SIDE PLATE (R) UNIT	1	
8(1)		VXP1339	MAIN SHAFT UNIT	1	
9(1)		VXL2251	CLEANER ARM UNIT	1	
12(1)		VBS0050	FE HEAD	1	
13(1)		VDG0871	CARRIAGE CONNECTION GEAR	1	
14(1)		VDG0886	PINCH CAM GEAR	1	
15(1)		VXP1402	IMPEDANCE ROLLER UNIT	1	
20(1)		VED0205	A/C HEAD (1) UNIT	1	
22(1)		VMA8624	A/C HEAD BASE	1	
23(1)		VMB2515	A/C HEAD SPRING	3	
25(1)		VMA8761	MOUNT ANGLE	1	
26(1)		VMA8763	HEAD AMP MOUNT ANGLE (L)	1	
27(1)		VMC0917	EARTH SPRING	1	
28(1)		VMA8874	INCLIND BASE HOLDER (S)	1	
29(1)		VMD2078	P5 STOPPER BASE	1	
30(1)		VXA4927	P5 POST STOPPER	1	
31(1)		VMA8873	INCLIND BASE HOLDER (T)	1	
32(1)		VMD2101	OPENER PIECE	1	
33(1)		VML2776	TENSION SPRING ARM	1	
34(1)		VMX1544	P4 UPPER LIMITER	1	
35(1)		VMX2175	P4 SLEEVE	1	
36(1)		VMX2176	P4 LOWER LIMITER	1	
40(1)		VXA4982	INCLIND BASE (S) UNIT	1	
41(1)		VXP1415	ROLLER POST UNIT	2	
42(1)		VXA4984	INCLIND BASE (T) UNIT	1	
44(1)		VXA4974	HEAD AMP MOUNT ANGLE (R) U.	1	
45(1)		VMS5383	CASSETTE POSITION FIXTURE	1	
46(1)		VXL2310	REVIEW ARM UNIT	1	
47(1)		VXL2306	P5 ARM UNIT	1	
48(1)		VXL2243	TAKE UP TENSION REGULATOR ARM UNIT	1	
49(1)		VXL2246	PINCH ARM UNIT	1	
50(1)		VMB2434	TENSION SPRING	1	
51(1)		VXL2309	TENSION ARM (1) UNIT	1	
52(1)		VXZ0310	TENSION BAND UNIT	1	
60(1)		VXR0221	SUPPLY REEL TABLE UNIT	1	
61(1)		VXR0222	TAKE UP REEL TABLE UNIT	1	
62(1)		VXS0114	EARTH PLATE	1	
63(1)		VXZ0312	SUPPLY BRAKE ARM UNIT	1	
64(1)		VXZ0313	TAKE UP BRAKE ARM UNIT	1	
70(1)		VEG1023	CYLINDER UNIT	1	NV-SD40EG/B
70(1)		VEG1024	CYLINDER UNIT	1	NV-SD30EG/B
71(1)		VEH0598	UPPER CYLINDER UNIT	1	NV-SD40EG/B
71(1)		VEH0599	UPPER CYLINDER UNIT	1	NV-SD30EG/B
72(1)		VJR0082	RT TERMINAL	1	
B1(1)		VHD0773	SCREW	2	
B2(1)		XTV26+6F	SCREW	4	
B3(1)		XTV26+4F	SCREW	2	
B4(1)		XTN3+6FFZ	SCREW	1	
B5(1)		VHD0425	SCREW	2	
B6(1)		VHD0762	SCREW	3	
B7(1)		XTV26+6FZ	SCREW	2	
B8(1)		XTV26+8F	SCREW	3	
B9(1)		VHD0760	SCREW	2	
B10(1)		VHD0342	SCREW	3	
N1(1)		VHN0192	NUT	3	
N2(1)		VHN0193	NUT	1	
W1(1)		VMX2208	WASHER	3	
W2(1)		XWGV26D5G	WASHER	1	

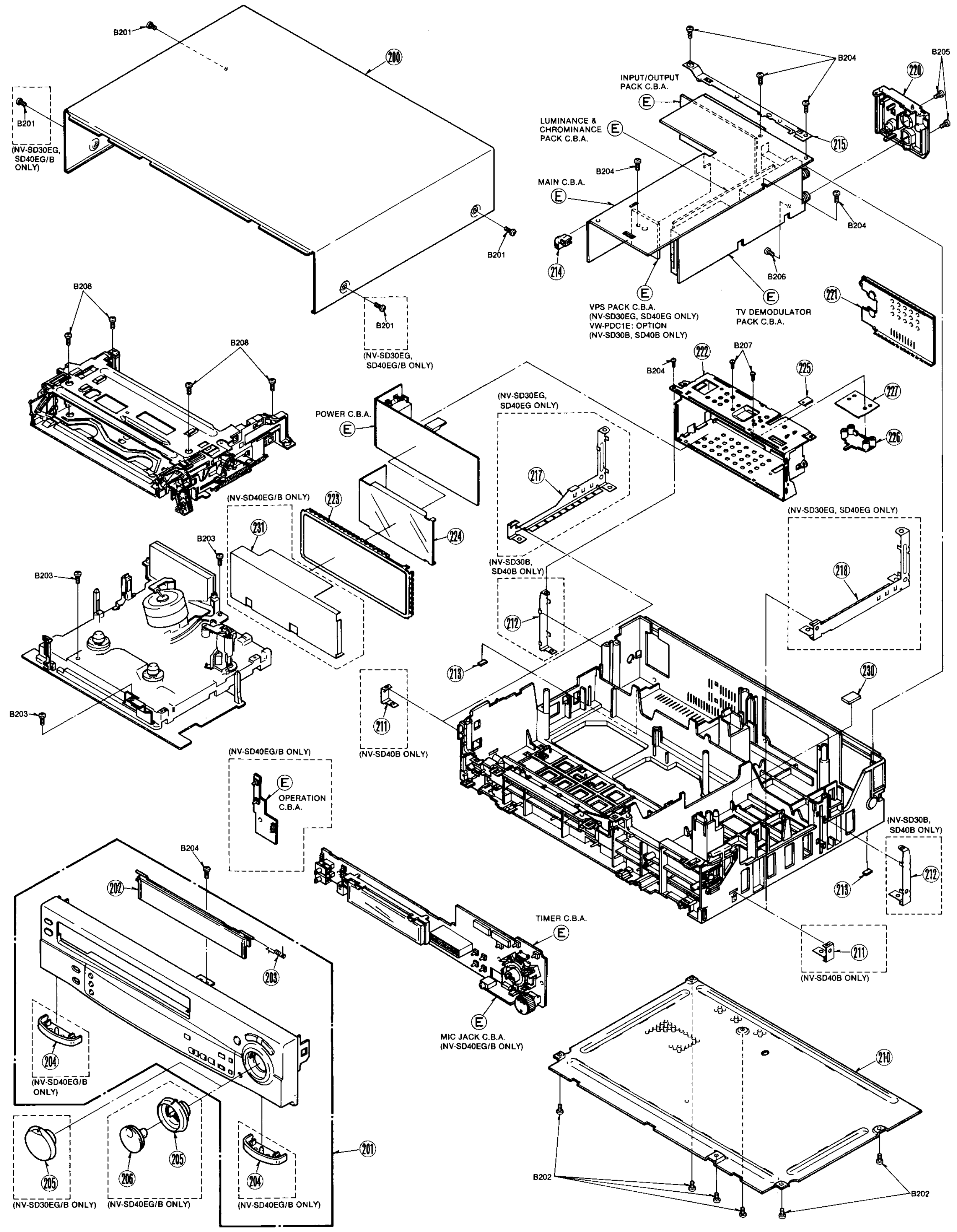
Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
100(2)		VEK5927	STATOR UNIT	1	
101(2)		VBK0061	FG HEAD	1	
103(2)		VMA8765	ROTOR STOPPER	1	
104(2)		VMX1927	OIL SEAL	2	
105(2)		VXD0140	HOUSING UNIT	1	
106(2)		VXP1350	ROTOR UNIT	1	
107(2)		VXQ0297	THRUST SCREW UNIT	1	
108(2)		VDG0913	MAIN CAM GEAR	1	
109(2)		VDG0861	SUPPLY REEL GEAR	1	
110(2)		VDG0862	TAKE UP REEL GEAR	1	
111(2)		VDG0868	WORM WHEEL GEAR	1	
112(2)		VDG0885	SUB CAM GEAR	1	
113(2)		VDV0235	TIMING BELT	1	
120(2)		VDG0866	WORM GEAR	1	
121(2)		VEM0427	LOADING MOTOR (1) UNIT	1	
123(2)		VMD1942	MOTOR BRACKET	1	
126(2)		VML2725	IDLER CONTROL LEVER	1	
127(2)		VSS0365	MODE SW	1	
128(2)		VXA4797	SS BRAKE BASE UNIT	1	
129(2)		VXA4799	TENSION ROLLER UNIT	1	
140(2)		VXL2229	IDLER ARM UNIT	1	
141(2)		VXL2230	DIRECT LEVER UNIT	1	
142(2)		VXL2299	SUPPLY LOADING ARM UNIT	1	
143(2)		VXL2300	TAKE UP LOADING ARM UNIT	1	
144(2)		VXL2307	MAIN LEVER UNIT	1	
145(2)		VXP1409	CENTRE CLUTCH	1	
150(2)		VMD1926	LED HOLDER	1	
151(2)		VMD1927	PHOTO TRANSISTOR HOLDER	2	
152(2)		VES0695	SAFETY TAB SW	1	
153(2)		VJB00S63	MECHANISM CONNECTION C.B.	1	ELECTRICAL PARTS ON THE C.B.A. IS LISTED ON ELECTRICAL PARTS LIST.
154(2)		VMD2029	REEL SHAFT GUIDE	1	
B101		VHD0772	SCREW	4	
B102		XTV26+8F	SCREW	2	
B103		XTV26+6F	SCREW	3	
B104		VHD0753	SCREW	3	
B105		VHD0754	SCREW	1	
B106		XSB26+4FZ	SCREW	1	
W101		VMX2208	WASHER	3	

❷ CHASSIS PARTS SECTION (2)



❸ CASING PARTS SECTION


B201
200
B201
(NV-SD30EG, SD40EG/B ONLY)
B201
(NV-SD30EG, SD40EG/B ONLY)
INPUT/OUTPUT PACK C.B.A.
LUMINANCE & CHROMINANCE PACK C.B.A.
MAIN C.B.A.
E
B204
B205
220
215
214
VPS PACK C.B.A. (NV-SD30EG, SD40EG ONLY) VW-PDC1E: OPTION (NV-SD30B, SD40B ONLY)
TV DEMODULATOR PACK C.B.A.
B206
221
B208
POWER C.B.A.
222
B207
225
227
226
(NV-SD30EG, SD40EG ONLY)
217
(NV-SD40EG/B ONLY)
223
231
224
B203
(NV-SD30B, SD40B ONLY)
212
218
213
230
211
(NV-SD40B ONLY)
OPERATION C.B.A.
202
203
TIMER C.B.A.
MIC JACK C.B.A. (NV-SD40EG/B ONLY)
210
204
205
206
201
B202
(NV-SD30EG/B ONLY)

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
200(3)		VGM0988	TOP PANEL	1	NV-SD30EG,SD40EG/B
					SUPPLIED FROM M.B.V.
200(3)		VGM0974	TOP PANEL	1	NV-SD30B
201(3)		VYP5255	FRONT PANEL UNIT	1	NV-SD30EG
					SUPPLIED FROM M.B.V.
201(3)		VYP5250	FRONT PANEL UNIT	1	NV-SD30B
					SUPPLIED FROM M.B.V.
201(3)		VYP5253	FRONT PANEL UNIT	1	NV-SD40EG
					SUPPLIED FROM M.B.V.
201(3)		VYP5252	FRONT PANEL UNIT	1	NV-SD40B
					SUPPLIED FROM M.B.V.
202(3)		VKF1978	BLINDER PANEL	1	
203(3)		VMB2521	BLINDER SPRING	1	
204(3)		VKA0153	LEG	1	NV-SD40EG/B
205(3)		VGU6129	SHUTTLE KNOB	1	NV-SD30EG/B
205(3)		VGU6124	SHUTTLE KNOB	1	NV-SD40EG/B
206(3)		VXU1139	JOG NOB UNIT	1	NV-SD40EG/B
210(3)		VKU0379	BOTTOM PLATE	1	
211(3)		VMP3821	SIDE ANGLE (F)	2	NV-SD40B
212(3)		VMP3940	SIDE ANGLE (R)	2	NV-SD30B,SD40B
213(3)		VKA0122	FOOT	2	
214(3)		VJF0374	MAIN C.B.A. HOLDER	1	
215(3)		VMP3939	EARTH ANGLE	1	
217(3)		VMP3982	FTZ ANGLE (L)	1	NV-SD30EG,SD40EG
218(3)		VMP3983	FTZ ANGLE (R)	1	NV-SD30EG,SD40EG
220(3)		VJH0683	RF ANT TERMINAL PLATE	1	NV-SD30EG,SD40EG
220(3)		VJH0684	RF ANT TERMINAL PLATE	1	NV-SD30B,SD40B
221(3)		VSC3110	POWER SHIELD COVER (TOP)	1	
222(3)		VXA4925	POWER SHIELD COVER (MAIN) U	1	
223(3)		VSC3375	POWER SHIELD COVER (BOTTOM)	1	
224(3)		VMZ1854	POWER BARRIER	1	
225(3)		VMC0357	TR. HOLDER SPRING	1	
226(3)		VGQ1377	TR. HOLDER	1	
227(3)		VMZ1224	INSULATION SHEET	1	
230(3)		VGQ0727	SPACER	1	
231(3)		VMZ2123	BARRIER	1	NV-SD40EG/B
B201		XTW3+10TFZ	SCREW	4	NV-SD30EG,SD40EG/B
B201		XTW3+10TFZ	SCREW	2	NV-SD30B
B202		VHD0059	SCREW	6	
B203		VHD0168	SCREW	3	
B204		VHD0773	SCREW	7	
B205		XTV3+12JFZ	SCREW	2	
B206		XTV3+6F	SCREW	1	
B207		XTV3+8G	SCREW	2	
B208		XTV26+8FR	SCREW	4	

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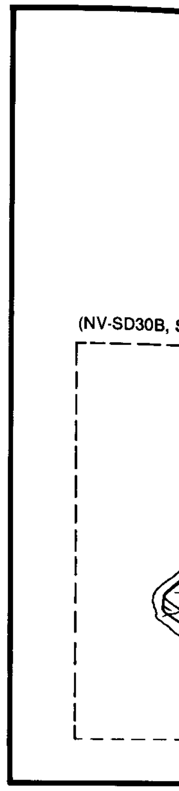
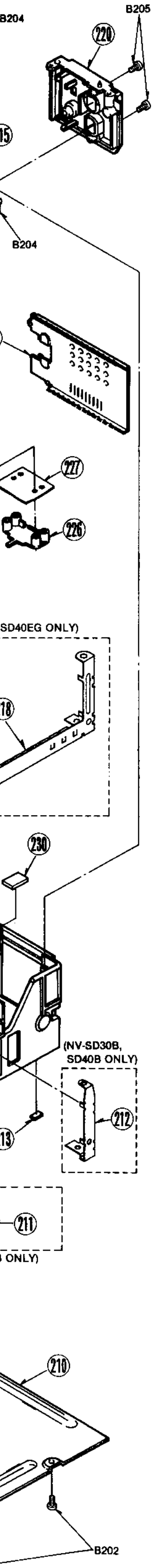
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
300(4)		VQT5198	OPERATING INSTRUCTIONS	1	<!>NV-SD30EG
			(GERMAN)		SUPPLIED FROM M.B.V.
300(4)		VQT5195	OPERATING INSTRUCTIONS	1	<!>NV-SD30B
			(ENGLISH)		SUPPLIED FROM M.B.V.
300(4)		VQT5213	OPERATING INSTRUCTIONS	1	<!>NV-SD40EG
			(GERMAN)		SUPPLIED FROM M.B.V.
300(4)		VQT5210	OPERATING INSTRUCTIONS	1	<!>NV-SD40B
			(ENGLISH)		SUPPLIED FROM M.B.V.
301(4)		VQC2119	PROGRAMME SHEET	1	NV-SD30EG,SD40EG
302(4)		VJA0710	DIN RF CABLE	1	NV-SD30EG,SD40EG
302(4)		VJA0376	DIN RF CABLE	1	NV-SD30B,SD40B
303(4)		VJA0664	AC CORD	1	<!>NV-SD30EG,SD40EG
303(4)		VJA0733	AC CORD	1	<!>NV-SD30B,SD40B
305(4)		VEQ1473	REMOTE CONTROLLER	1	NV-SD30EG,SD40EG
			(BUILD IN DIGITAL SCANNER)		SUPPLIED FROM M.B.V.
305(4)		VEQ1485	REMOTE CONTROLLER	1	NV-SD30B,SD40B
					SUPPLIED FROM M.B.V.
306(4)		VGP3344	DOOR PANEL	1	NV-SD30EG,SD40EG
307(4)		VKF1977	BATTERY COVER	1	NV-SD30EG,SD40EG
308(4)		VGQ3046	CAP	1	NV-SD30EG,SD40EG
320(4)		VPK0825	ACCESSORIES PACKING	1	
321(4)		VPN3542	CUSHION (L)	1	
322(4)		VPN3543	CUSHION (R)	1	
323(4)		VPG6855	PACKING	1	NV-SD30EG
					SUPPLIED FROM M.B.V.
323(4)		VPG6857	PACKING	1	NV-SD30B
					SUPPLIED FROM M.B.V.
323(4)		VPG6861	PACKING	1	NV-SD40EG
					SUPPLIED FROM M.B.V.
323(4)		VPG6863	PACKING	1	NV-SD40B
					SUPPLIED FROM M.B.V.

❹ PACKIN





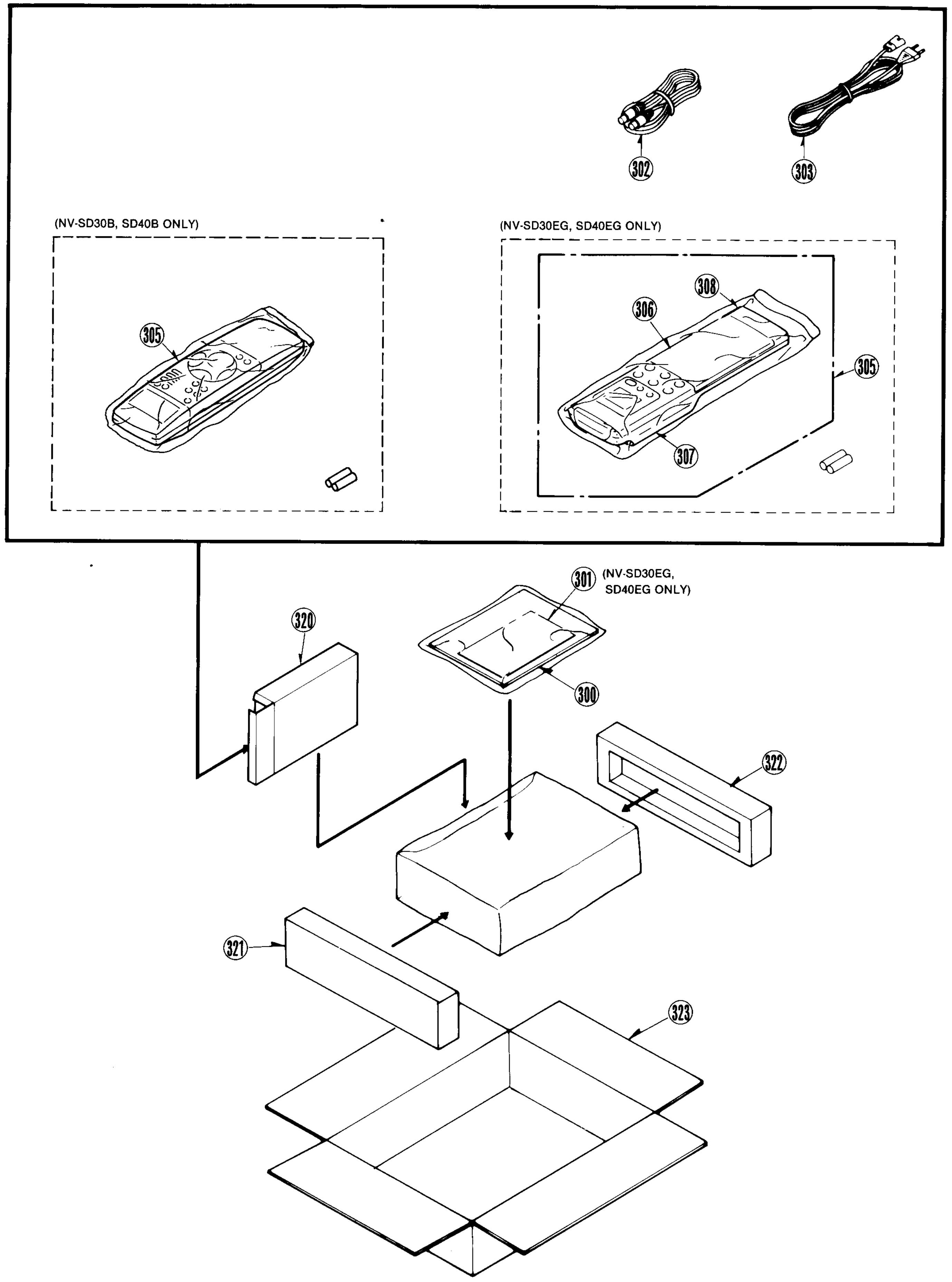
Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
200(3)		VGM0988	TOP PANEL	1	NV-SD30EG,SD40EG/B
					SUPPLIED FROM M.B.V.
200(3)		VGM0974	TOP PANEL	1	NV-SD30B
201(3)		VYP5255	FRONT PANEL UNIT	1	NV-SD30EG
					SUPPLIED FROM M.B.V.
201(3)		VYP5250	FRONT PANEL UNIT	1	NV-SD30B
					SUPPLIED FROM M.B.V.
201(3)		VYP5253	FRONT PANEL UNIT	1	NV-SD40EG
					SUPPLIED FROM M.B.V.
201(3)		VYP5252	FRONT PANEL UNIT	1	NV-SD40B
					SUPPLIED FROM M.B.V.
202(3)		VKF1978	BLINDER PANEL	1	
203(3)		VMB2521	BLINDER SPRING	1	
204(3)		VKA0153	LEG	1	NV-SD40EG/B
205(3)		VGU6129	SHUTTLE KNOB	1	NV-SD30EG/B
205(3)		VGU6124	SHUTTLE KNOB	1	NV-SD40EG/B
206(3)		VXU1139	JOG NOB UNIT	1	NV-SD40EG/B
210(3)		VKU0379	BOTTOM PLATE	1	
211(3)		VMP3821	SIDE ANGLE (F)	2	NV-SD40B
212(3)		VMP3940	SIDE ANGLE (R)	2	NV-SD30B,SD40B
213(3)		VKA0122	FOOT	2	
214(3)		VJF0374	MAIN C.B.A. HOLDER	1	
215(3)		VMP3939	EARTH ANGLE	1	
217(3)		VMP3982	FTZ ANGLE (L)	1	NV-SD30EG,SD40EG
218(3)		VMP3983	FTZ ANGLE (R)	1	NV-SD30EG,SD40EG
220(3)		VJH0683	RF ANT TERMINAL PLATE	1	NV-SD30EG,SD40EG
220(3)		VJH0684	RF ANT TERMINAL PLATE	1	NV-SD30B,SD40B
221(3)		VSC3110	POWER SHIELD COVER (TOP)	1	
222(3)		VXA4925	POWER SHIELD COVER (MAIN) U	1	
223(3)		VSC3375	POWER SHIELD COVER (BOTTOM)	1	
224(3)		VMZ1854	POWER BARRIER	1	
225(3)		VMC0357	TR. HOLDER SPRING	1	
226(3)		VGQ1377	TR. HOLDER	1	
227(3)		VMZ1224	INSULATION SHEET	1	
230(3)		VGQ0727	SPACER	1	
231(3)		VMZ2123	BARRIER	1	NV-SD40EG/B
B201		XTW3+10TFZ	SCREW	4	NV-SD30EG,SD40EG/B
B201		XTW3+10TFZ	SCREW	2	NV-SD30B
B202		VHD0059	SCREW	6	
B203		VHD0168	SCREW	3	
B204		VHD0773	SCREW	7	
B205		XTV3+12JFZ	SCREW	2	
B206		XTV3+6F	SCREW	1	
B207		XTV3+8G	SCREW	2	
B208		XTV26+8FR	SCREW	4	

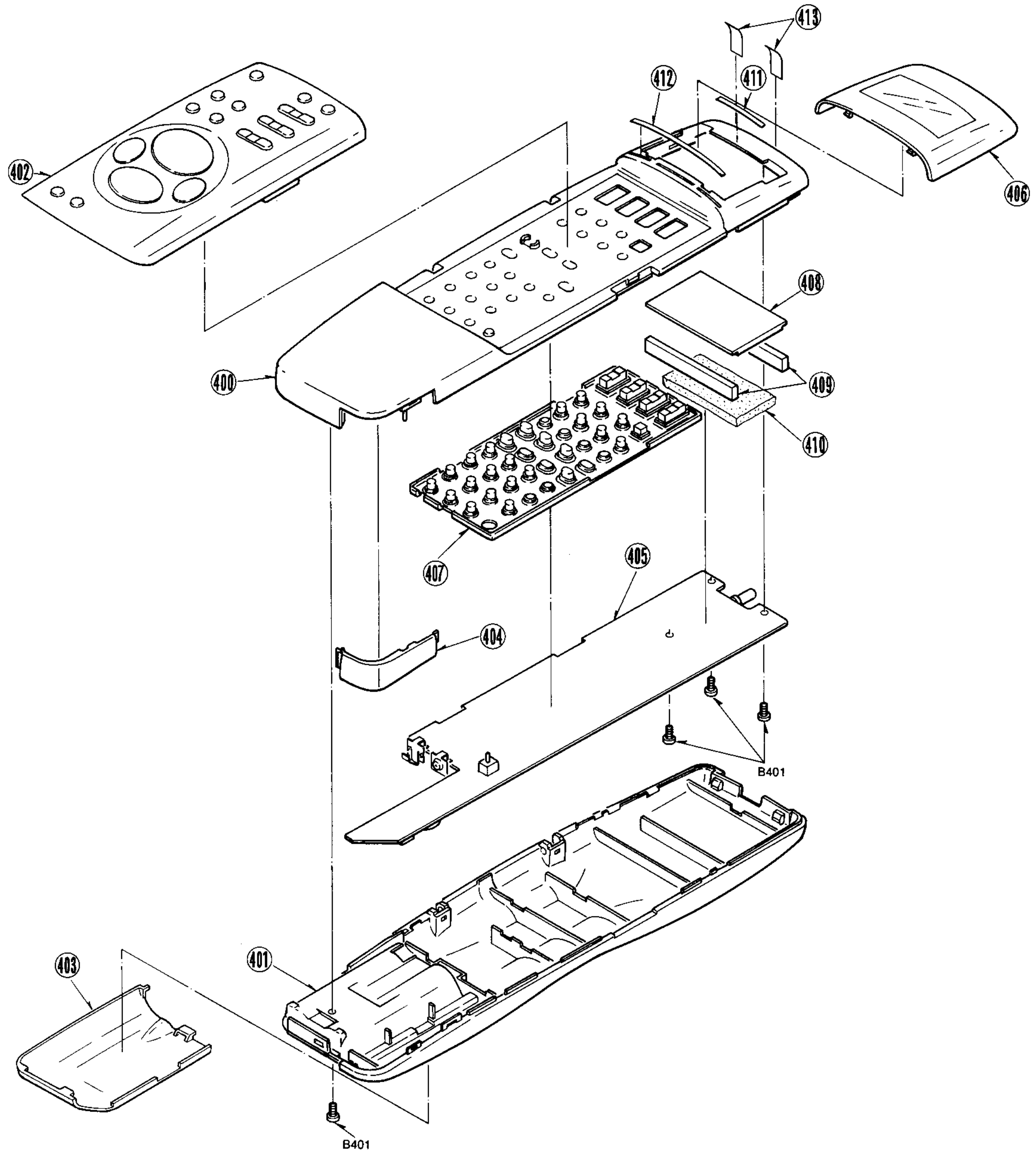
Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
300(4)		VQT5198	OPERATING INSTRUCTIONS	1	<!>NV-SD30EG
			(GERMAN)		SUPPLIED FROM M.B.V.
300(4)		VQT5195	OPERATING INSTRUCTIONS	1	<!>NV-SD30B
			(ENGLISH)		SUPPLIED FROM M.B.V.
300(4)		VQT5213	OPERATING INSTRUCTIONS	1	<!>NV-SD40EG
			(GERMAN)		SUPPLIED FROM M.B.V.
300(4)		VQT5210	OPERATING INSTRUCTIONS	1	<!>NV-SD40B
			(ENGLISH)		SUPPLIED FROM M.B.V.
301(4)		VQC2119	PROGRAMME SHEET	1	NV-SD30EG,SD40EG
302(4)		VJA0710	DIN RF CABLE	1	NV-SD30EG,SD40EG
302(4)		VJA0376	DIN RF CABLE	1	NV-SD30B,SD40B
303(4)		VJA0664	AC CORD	1	<!>NV-SD30EG,SD40EG
303(4)		VJA0733	AC CORD	1	<!>NV-SD30B,SD40B
305(4)		VEQ1473	REMOTE CONTROLLER	1	NV-SD30EG,SD40EG
			(BUILD IN DIGITAL SCANNER)		SUPPLIED FROM M.B.V.
305(4)		VEQ1485	REMOTE CONTROLLER	1	NV-SD30B,SD40B
					SUPPLIED FROM M.B.V.
306(4)		VGP3344	DOOR PANEL	1	NV-SD30EG,SD40EG
307(4)		VKF1977	BATTERY COVER	1	NV-SD30EG,SD40EG
308(4)		VGQ3046	CAP	1	NV-SD30EG,SD40EG
320(4)		VPK0825	ACCESSORIES PACKING	1	
321(4)		VPN3542	CUSHION (L)	1	
322(4)		VPN3543	CUSHION (R)	1	
323(4)		VPG6855	PACKING	1	NV-SD30EG
					SUPPLIED FROM M.B.V.
323(4)		VPG6857	PACKING	1	NV-SD30B
					SUPPLIED FROM M.B.V.
323(4)		VPG6861	PACKING	1	NV-SD40EG
					SUPPLIED FROM M.B.V.
323(4)		VPG6863	PACKING	1	NV-SD40B
					SUPPLIED FROM M.B.V.

❹ PACKING PARTS SECTION



❺ REMOTE CONTROLLER UNIT (NV-SD30B, SD40B)



Note: 1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark ⟨!⟩ have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
400(5)		VYK4841	TOP COVER UNIT	1	NV-SD30B,SD40B
					SUPPLIED FROM M.B.V.
401(5)		VYK4517	BOTTOM COVER UNIT	1	NV-SD30B,SD40B
402(5)		VYK4842	DOOR PANEL UNIT	1	NV-SD30B,SD40B
					SUPPLIED FROM M.B.V.
403(5)		VYK4844	BATTERY COVER UNIT	1	NV-SD30B,SD40B
					SUPPLIED FROM M.B.V.
404(5)		VGQ3040	CAP	1	NV-SD30B,SD40B
405(5)			REMOTE CONTROLLER C.B.A.	1	The C.B.A. is not
					supplied as spare
					part.
406(5)		VKW1668	IR WINDOW	1	NV-SD30B,SD40B
407(5)		VSP0734	RUBBER CONTACT	1	NV-SD30B,SD40B
					SUPPLIED FROM M.B.V.
408(5)		VSL0287	LCD	1	NV-SD30B,SD40B
					SUPPLIED FROM M.B.V.
409(5)		VSQ0809	CONDUCTIVE RUBBER	2	NV-SD30B,SD40B

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
410(5)		VGQ3027	LCD SPACER	1	NV-SD30B,SD40B
411(5)		VGQ3028	AGGLUTINATED TAPE (A)	1	NV-SD30B,SD40B
412(5)		VGQ3029	AGGLUTINATED TAPE (B)	1	NV-SD30B,SD40B
413(5)		VGQ3077	AGGLUTINATED FILM	2	NV-SD30B,SD40B
B401(5)		XTB2+6GFZ	SCREW	4	NV-SD30B,SD40B
			SERVICE FIXTURES & TOOLS		
		VFJ8125H3F	VHS ALIGNMENT TAPE(PAL)	1	
		VFK0335	RETAINING RING REMOVER	1	
			(3mm/4mm)		
		VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
		VFK0326	HEX WRENCH SET	1	
		VFK0132	BACK TENSION METER	1	
		VFK0343	CHECK LIGHT	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLYTONE GREASE	1	
		VFK0341	UPPER CYLINDER REMOVER	1	
		VFK0680	WHITE GREASE	1	
		VFK0851	CENTRE FIXING TOOL	1	
		VFK0330	FINE ADJUSTMENT GEAR DRIVER	1	

5-2. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE : Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP03971J	MAIN C.B.A.	1	(RTL)NV-SD30EG
					SUPPLIED FROM M.B.V.
		VEP03971L	MAIN C.B.A.	1	(RTL)NV-SD30B
					SUPPLIED FROM M.B.V.
		VEP03971H	MAIN C.B.A.	1	(RTL)NV-SD40EG
					SUPPLIED FROM M.B.V.
		VEP03971K	MAIN C.B.A.	1	(RTL)NV-SD40B
					SUPPLIED FROM M.B.V.
		VEP03973B	INPUT/OUTPUT PACK C.B.A.	1	(RTL)NV-SD30EG
					SUPPLIED FROM M.B.V.
		VEP03973D	INPUT/OUTPUT PACK C.B.A.	1	(RTL)NV-SD30B
					SUPPLIED FROM M.B.V.
		VEP03973A	INPUT/OUTPUT PACK C.B.A.	1	(RTL)NV-SD40EG
					SUPPLIED FROM M.B.V.
		VEP03973C	INPUT/OUTPUT PACK C.B.A.	1	(RTL)NV-SD40B
					SUPPLIED FROM M.B.V.
		VEP03A01A1PE	LUMINANCE & CHROMINANCE	1	(RTL)NV-SD30EG
			PACK C.B.A.		SUPPLIED FROM M.B.V.
		VEP03A01BPE	LUMINANCE & CHROMINANCE	1	(RTL)NV-SD30B
			PACK C.B.A.		SUPPLIED FROM M.B.V.
		VEP03A01DPE	LUMINANCE & CHROMINANCE	1	(RTL)NV-SD40EG
			PACK C.B.A.		SUPPLIED FROM M.B.V.
		VEP03A01EPE	LUMINANCE & CHROMINANCE	1	(RTL)NV-SD40B
			PACK C.B.A.		SUPPLIED FROM M.B.V.
		VEP07538G	VPS C.B.A.	1	(RTL)
					NV-SD30EG,SD40EG
		VEP07726A	TV DEMODULATOR PACK C.B.A.	1	(RTL)
					NV-SD30EG,SD40EG
					SUPPLIED FROM M.B.V.
		VEP07645S	TV DEMODULATOR PACK C.B.A.	1	(RTL)NV-SD30B,SD40B
					SUPPLIED FROM M.B.V.
		VEP05182APE	HEAD AMP C.B.A.	1	(RTL)NV-SD30EG/B
					SUPPLIED FROM M.B.V.
		VEP05182BPE	HEAD AMP C.B.A.	1	(RTL)NV-SD40EG/B
					SUPPLIED FROM M.B.V.
		VEP07701D	TIMER C.B.A.	1	(RTL)NV-SD30EG
					SUPPLIED FROM M.B.V.
		VEP07701F	TIMER C.B.A.	1	(RTL)NV-SD30B
					SUPPLIED FROM M.B.V.
		VEP07699D	TIMER C.B.A.	1	(RTL)NV-SD40EG
					INCLUDING THE MIC
					C.B.A.(VEP00S77A).
					SUPPLIED FROM M.B.V.
		VEP07699F	TIMER C.B.A.	1	(RTL)NV-SD40B
					INCLUDING THE MIC
					C.B.A.(VEP00S77A).

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
					SUPPLIED FROM M.B.V.
		VEP00S77A	MIC C.B.A.	1	(RTL)NV-SD40EG/B
					INCLUDED IN TIMER
					C.B.A.(VEP07699D,F).
					SUPPLIED FROM M.B.V.
		VEP07716A	OPERATION C.B.A.	1	(RTL)NV-SD40EG/B
					SUPPLIED FROM M.B.V.
		VEP01518G	POWER C.B.A.	1	(RTL)<!>
					NV-SD30EG,SD40EG
					SUPPLIED FROM M.B.V.
		VEP01518H	POWER C.B.A.	1	(RTL)<!>
					NV-SD30B,SD40B
					SUPPLIED FROM M.B.V.
		---------	MECHANISM CONNECTION C.B.A.	1	(RTL)
					NOT SUPPLIED AS
					C.B.A..(C.B. IS
					LISTED ON MECHANICAL
					PARTS LIST)
		VEP00S86A	POWER TRANSISTOR C.B.A.	1	(RTL)
		---------	MOTOR C.B.A.	1	(RTL)
					C.B.A. IS INCLUDED
					IN LOADING MOTOR (1)
					UNIT.(VEM0427)
		ENC17984	RF CONVERTER	1	<!>NV-SD30EG,SD40EG
		ENC17990	RF CONVERTER	1	<!>NV-SD30B,SD40B
		ENV57851H6	TUNER	1	<!>NV-SD30EG,SD40EG
		ENV87837H3R	TUNER	1	<!>NV-SD30B,SD40B
F1101		VSF0107C16	FUSE	1	<!>
	■	VEP03971J	MAIN C.B.A.		(RTL)NV-SD30EG
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C1001		ECA1EM101	E.CAPACITOR 25V 100U	1	
C1002		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C1003		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C1004		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C2001		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2002		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2003		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2004		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C2005		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C2006		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2007		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C2008		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2009,10		ECEA1HKN3R3	E.CAPACITOR 50V 3.3U	2	
C2011		ECUM1H471JCN	C.CAPACITOR 50V 470P	1	
C2012		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2013		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2014		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2015		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C2016		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2017		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2018		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2019		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2020		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2021		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C2022		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2023		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2024		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2501		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2502		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2503-05		ECUM1H104KBM	C.CAPACITOR CH 50V 0.1U	3	
C2506		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2507-09		ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	3	
C2510		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C2511		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C2512		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2514		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2515-17		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	3	
C2518-21		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	4	
C2522		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C2523		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2524,25		ECEA1CK470	E.CAPACITOR 16V 47U	2	
C2526		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2527		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2528,29		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	2	
C2530		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2531		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C2532,33		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C2534,35		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	2	
C2536		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C2555		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2556		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2557		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2558		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2559		ECEA1AK330	E.CAPACITOR 10V 33U	1	
C3001		ECA0JM471	E.CPAACITOR 6.3V 470U	1	
C3003		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3005		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3006,07		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C3011		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3012		ECUM1H681JCN	C.CAPACITOR 50V 680P	1	
C3013		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3018		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3019		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3020		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3021		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C3022		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3023		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3026		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3029		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C3030		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3031		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3033		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3034		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4001		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4003		ECQB1H273JH	P.CAPACITOR 50V 0.027U	1	
C4005		ECQB1H123JH	P.CAPACITOR 50V 0.01U	1	
C4007		ECUM1H681JCN	C.CAPACITOR 50V 680P	1	
C4008		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C4009		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C4010		ECEA1CK330	E.CAPACITOR 16V 33U	1	
C4011		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4012		ECQB1H102KZ	P.CAPACITOR 50V 1000P	1	
C4013		ECEA16M33	E.CAPACITOR 16V 33U	1	
C4014		ECQP1332JZ	P.CAPACITOR 100V 4700P	1	
C4015		ECCD2H181J	C.CAPACITOR 500V 180P	1	
C4016		ECQB1H153JH	P.CAPACITOR 50V 0.015U	1	
C4019		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4022		ECUM1H471JCN	C.CAPACITOR 50V 470P	1	
C4023		ECEA10M22	E.CAPACITOR 10V 22U	1	
C4024		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4025		ECEA16M10R	E.CAPACITOR 16V 10U	1	
C4026		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4027		ECQB1H822KZ	P.CAPACITOR 50V 8200P	1	
C4028		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4029		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4030		ECUM1H102ZFN	C.CAPACITOR CH 50V 1000P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4031		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C4032		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C4033		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4034,35		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C4037		ECKF1H562KB	C.CAPACITOR 50V 5600P	1	
C4038		ECKF1H391KB	C.CAPACITOR 50V 390P	1	
C6001		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C6002		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C6003		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C6004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6005		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C6008		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C6009		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6010		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C6501		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6502		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C6503,04		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C6505		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6710		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6711		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C7001		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7002		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C7701		ECA0JM471	E.CPAACITOR 6.3V 470U	1	
C7702		EECS5R5T224N	E.CAPACITOR 5.5V 0.22U	1	
			DIODES		
D1005		MA178	DIODE	1	
D2003		1SS254	DIODE	1	
D2501-04		1SS254	DIODE	4	
D2509		1SS254	DIODE	1	
D2511,12		1SS254	DIODE	2	
D3002		1SS254	DIODE	1	
D4002		1SS254	DIODE	1	
D6002-05		1SS254	DIODE	4	
D6501-04		1SS254	DIODE	4	
D6711		1SS254	DIODE	1	
D6712		MA723VT	DIODE	1	(VT)
			CONNECTORS		
FE		VJS1141	CONNECTOR(FEMALE)	1	
			INTEGRATED CIRCUITS		
IC2501		NA3814K	IC	1	
IC2502		XRA6439P	IC	1	
IC2503		LM358PS	IC	1	
IC4001		XRA7766AS	IC	1	
IC6001		MN67434VRRV	IC	1	
IC6501		BA6219B	IC	1	
IC6502		LM358PS	IC	1	
IC6710		M66006FP	IC	1	
			COILS		
L2001		ELESQ101KA	COIL 100UH	1	
L2501		ELESQ101KA	COIL 100UH	1	
L2503		VLP0125	COIL	1	
L3002		ELESQ101KA	COIL 100UH	1	
L3003		ELESQ120KA	COIL 12UH	1	
L3004		ELESQ101KA	COIL 100UH	1	
L3007		ELESQ6R8JA	COIL 6.8UH	1	
L3008		ELESQ101KA	COIL 100UH	1	
L4001		VLQEL07F153J	COIL 15MH	1	
L4002		ELESQ471KA	COIL 470UH	1	
L6001		VLP0074	COIL	1	
L6501		VLP0074	COIL	1	
L6701		ELESE101KA	COIL 100UH	1	
L7002,03		ELESQ101KA	COIL 100UH	2	
L7004		ELESQ1R0KA	COIL 1UH	1	
L7007		ELJFC1R0KB	COIL 1UH	1	
			CONNECTORS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P202		VJS1237T	CONNECTOR (FEMALE)	1	
P1001		VJS3193E013A	CONNECTOR (FEMALE)	1	
P1506		VJS1736T	CONNECTOR (FEMALE) 3P	1	
P2501		VJS3193E015A	CONNECTOR (FEMALE)	1	
P2502		VJP1230T	CONNECTOR (MALE) 3P	1	
P2502		VJS1736T	CONNECTOR (FEMALE) 3P	1	
P2503		VJP1237T	CONNECTOR (MALE) 10P	1	
P2503		VJS1237T	CONNECTOR (FEMALE)	1	
P3001		VJS1658	CONNECTOR (FEMALE)	1	
P4002		VJP1230T	CONNECTOR (MALE) 3P	1	
P4002		VJS1230T	CONNECTOR (FEMALE)	1	
P4003		VJS2331	CONNECTOR (FEMALE) 6P	1	
P6001		VJS3193E013A	CONNECTOR (FEMALE)	1	
P6002		VJS1657	CONNECTOR (FEMALE)	1	
P6501		VJS3193E013A	CONNECTOR (FEMALE)	1	
PP3001		VJP3044G009W	CONNECTOR (MALE)	1	
PP3002		VJP3044G012W	CONNECTOR (MALE)	1	
PP3003		VJP3044G006W	CONNECTOR (MALE)	1	
PP3004		VJP3043G011W	CONNECTOR (MALE)	1	
PP3005		VJP3043G009W	CONNECTOR (MALE)	1	
PP6707		VJP3043G010W	CONNECTOR (MALE)	1	
PP7001-03		VJP3043A005W	CONNECTOR (MALE) 5P	3	
PP7004		VJP3043A006W	CONNECTOR (MALE) 6P	1	
PP7005		VJP3043A004W	CONNECTOR (MALE) 4P	1	
			TRANSISTORS		
Q2003		MSB709	TRANSISTOR	1	
Q2004		MSD601	TRANSISTOR-RESISTOR	1	
Q2502		2SB1321-R	TRANSISTOR	1	(R,S)
Q2504		MSB709	TRANSISTOR	1	
Q2505		MSD601	TRANSISTOR-RESISTOR	1	
Q2506		2SD1991	TRANSISTOR	1	
Q2507		2SD1991A	TRANSISTOR	1	
Q3001		MSB709-R	TRANSISTOR	1	
Q3002		MSD601-R	TRANSISTOR	1	
Q3003		MSC2295-B	TRANSISTOR	1	
Q3006		MSB710	TRANSISTOR	1	
Q3007		MSB710-R	TRANSISTOR	1	(R,S)
Q4001		MSD602-R	TRANSISTOR	1	
			COMBINATION PARTS		
QR1001		MRN1402	TRANSISTOR-RESISTOR	1	
QR2002		XN1213	TRANSISTOR-TRANSISTOR	1	
QR2007		MRN2404	TRANSISTOR-RESISTOR	1	
QR2008		UN2210	TRANSISTOR-RESISTOR	1	
QR3005		MRN2402	TRANSISTOR-RESISTOR	1	
QR3009		MRN1404	TRANSISTOR-RESISTOR	1	
QR4001		MRN1404	TRANSISTOR-RESISTOR	1	
QR4005		MRN2404	TRANSISTOR-RESISTOR	1	
QR6005		MRN1404	TRANSISTOR-RESISTOR	1	
QR6501		XN1211	TRANSISTOR-RESISTOR	1	
QR6502		UN2216	TRANSISTOR-RESISTOR	1	
QR6710		MRN2404	TRANSISTOR-RESISTOR	1	
QR7701		MRN1402	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R2002		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2003		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R2004		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R2008		ERJ6GMYJ244	M.RESISTOR CH 1/10W 240K	1	
R2009,10		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2012		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2013		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R2015,16		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2018		ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R2021		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2024		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R2027,28		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R2034		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2035		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2036		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2037		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R2038		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2039		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2501		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R2502		ERDS2FJ1R5	C.RESISTOR 1/4W 1.5	1	
R2503-05		ERDS2TJ150	C.RESISTOR 1/4W 15	3	
R2506		ERDS2FJ1R2	C.RESISTOR 1/4W 1.2	1	
R2507		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2508		EROS2CKG6800	M.RESISTOR 1/4W 680	1	
R2509		ERX12SJR47	M.RESISTOR CH 1/2W 0.47	1	
R2510-12		ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2513		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2514		ERDS1TJ561	C.RESISTOR 1/2W 560	1	
R2515		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2516		ERJ6GMYG432	M.RESISTOR CH 1/10W 4.3K	1	
R2517		ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R2518		ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R2519		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2520		ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R2521		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2522		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2523		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2524,25		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R2526		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2527		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2538,39		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	2	
R2542,43		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R2544		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R2545		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R2546		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R2551		ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R2554		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2555,56		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	2	
R2557		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2558		ERJ6GMYG201	M.RESISTOR 1/10W 200	1	
R2560		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2561,62		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2568		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3001		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3003		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R3006		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	1	
R3007		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3008		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3009		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3013		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3014		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3015		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R3016		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R3018		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R3026		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3027		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3028		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3029		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3030		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3037		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3038		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3040		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3043		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R4001		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R4003		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R4004		ERJ6GMYG221	M.RESISTOR 1/10W 220	1	
R4006		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R4007		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R4008		ERJ6GMYJ470	M.RESISTOR CH 1/10W 47	1	
R4010,11		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	2	
R4012		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R4013		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4014		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R4015		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R4023		ERJ6GMYJ100	M.RESISTOR 1/10W 10	1	
R4024		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R4025		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R4027		ERJ6GMYJ394	M.RESISTOR CH 1/10W 390K	1	
R4028		ERJ6GMYG822	M.RESISTOR CH 1/10W 8.2K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4029		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4030		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4032		ERJ6GMYG912	M.RESISTOR CH 1/10W 9.1K	1	
R4033		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4034		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R4035		ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R4036		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4037		ERJ6GMYG622	M.RESISTOR CH 1/10W 6.2K	1	
R4038		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R4039		ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4040		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4041,42		ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	2	
R4043		ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R6002,03		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	2	
R6004		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6005		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R6006,07		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6008		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6013,14		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R6015		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6021		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6022,23		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R6024		ERJ6GMYJ101	M.RESISTOR 1/10W 100	1	
R6028-30		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R6031		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R6501		ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R6502		ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6503		ERJ6GMYG112	M.REISITOR CH 1/10W 1.1K	1	
R6504		ERX1SJ1R8	M.RESISTOR 1W 1.8	1	
R6505		ERJ6GMYJ564	M.RESISTOR CH 1/10W 560K	1	
R6506		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R6507		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R6508,09		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R6510-12		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R6513-15		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	3	
R6517		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R6518		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R6713		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6714		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6715-19		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	5	
R6724		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6726		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6728		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7005		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R7701		ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R7702		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
			TRANSFORMERS		
T4001		EIQ7QF014Q	TRANSFORMER	1	
			VARIABLE RESISTORS		
VR2001		EVNDXAA00B54	V.RESISTOR 50K	1	
VR2011		EVNDXAA00B15	V.RESISTOR 100K	1	
VR2019		EVNDXAA00B15	V.RESISTOR 100K	1	
VR3012		EVNDXAA00B52	V.RESISTOR 500	1	
VR4002		EVNDXAA00B25	V.RESISTOR 200K	1	
			CRYSTAL OSCILLATORS		
X6001		VSX0479	CRYSTAL OSCILLATOR	1	
X7701		VSQ0565	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VWJ0749	FLAT CARD CABLE	1	(P6501-P1505)
		VWJ15HW260MM	FLAT CARD CABLE	1	(P2501-P1507)
		VWJ10AW335MM	FLAT CARD CABLE	1	(P3001-P501)
		VWJ13HW105MM	FLAT CARD CABLE	1	(P1001-P1102)
		VWJ131W140BB	FLAT CARD CABLE	1	(P6001-P7501)
		VWJ090W140BB	FLAT CARD CABLE	1	(P6002-P7502)
		VEE8284	FLAT CARD CABLE	1	(P4002-FE HEAD)
		VEE8285	FLAT CARD CABLE	1	(P2503-P202)
		VEE8286	FLAT CARD CABLE	1	(P2502-P1508)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP03971L	MAIN C.B.A.		(RTL)NV-SD30B
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C1001		ECA1EM101	E.CAPACITOR 25V 100U	1	
C1002		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C1003		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C1004		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C2001		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2002		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2003		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2004		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C2005		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C2006		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2007		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C2008		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2009,10		ECEA1HKN3R3	E.CAPACITOR 50V 3.3U	2	
C2011		ECUM1H471JCN	C.CAPACITOR 50V 470P	1	
C2012		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2013		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2014		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2015		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C2016		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2017		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2018		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2019		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C2020		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2021		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C2022		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2023		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2024		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2501		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2502		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2503-05		ECUM1H104KBM	C.CAPACITOR CH 50V 0.1U	3	
C2506		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2507-09		ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	3	
C2510		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C2511		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C2512		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2514		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2515-17		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	3	
C2518-21		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	4	
C2522		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C2523		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2524,25		ECEA1CK470	E.CAPACITOR 16V 47U	2	
C2526		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2527		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2528,29		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	2	
C2530		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2531		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C2532,33		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C2534,35		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	2	
C2536		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C2555		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2556		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2557		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2558		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2559		ECEA1AK330	E.CAPACITOR 10V 33U	1	
C3001		ECA0JM471	E.CPAACITOR 6.3V 470U	1	
C3003		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3005		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3006,07		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C3011		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3012		ECUM1H681JCN	C.CAPACITOR 50V 680P	1	
C3013		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3018		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3019		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3020		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3021		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C3022		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3023		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3026		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3029		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C3030		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3031		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3033		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3034		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4001		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4003		ECQB1H273JH	P.CAPACITOR 50V 0.027U	1	
C4005		ECQB1H123JH	P.CAPACITOR 50V 0.01U	1	
C4007		ECUM1H681JCN	C.CAPACITOR 50V 680P	1	
C4008		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C4009		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C4010		ECEA1CK330	E.CAPACITOR 16V 33U	1	
C4011		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4012		ECQB1H102KZ	P.CAPACITOR 50V 1000P	1	
C4013		ECEA16M33	E.CAPACITOR 16V 33U	1	
C4014		ECQP1332JZ	P.CAPACITOR 100V 4700P	1	
C4015		ECCD2H181J	C.CAPACITOR 500V 180P	1	
C4016		ECQB1H153JH	P.CAPACITOR 50V 0.015U	1	
C4019		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4022		ECUM1H471JCN	C.CAPACITOR 50V 470P	1	
C4023		ECEA10M22	E.CAPACITOR 10V 22U	1	
C4024		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4025		ECEA16M10R	E.CAPACITOR 16V 10U	1	
C4026		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4027		ECQB1H822KZ	P.CAPACITOR 50V 8200P	1	
C4028		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4029		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4030		ECUM1H102ZFN	C.CAPACITOR CH 50V 1000P	1	
C4031		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C4032		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C4033		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4034,35		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C4037		ECKF1H562KB	C.CAPACITOR 50V 5600P	1	
C6001		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C6002		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C6003		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C6004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6005		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C6008		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C6009		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6010		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C6501		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6502		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C6503,04		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C6505		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6710		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6711		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C7001		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7004		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C7005		ECKF1H471KB	C.CAPACITOR 50V 470P	1	
C7701		ECA0JM471	E.CPAACITOR 6.3V 470U	1	
C7702		EECS5R5T224N	E.CAPACITOR 5.5V 0.22U	1	
			DIODES		
D1005		MA178	DIODE	1	
D2003		1SS254	DIODE	1	
D2501-04		1SS254	DIODE	4	
D2509		1SS254	DIODE	1	
D2511,12		1SS254	DIODE	2	
D3002		1SS254	DIODE	1	
D4002		1SS254	DIODE	1	
D6002-05		1SS254	DIODE	4	
D6501-04		1SS254	DIODE	4	
D6711		1SS254	DIODE	1	
D6712		MA723VT	DIODE	1	(VT)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CONNECTORS		
FE		VJS1141	CONNECTOR(FEMALE)	1	
			INTEGRATED CIRCUITS		
IC2501		NA3814K	IC	1	
IC2502		XRA6439P	IC	1	
IC2503		LM358PS	IC	1	
IC4001		XRA7766AS	IC	1	
IC6001		MN67434VRRV	IC	1	
IC6501		BA6219B	IC	1	
IC6502		LM358PS	IC	1	
IC6710		M66006FP	IC	1	
			COILS		
L2001		ELESQ101KA	COIL 100UH	1	
L2501		ELESQ101KA	COIL 100UH	1	
L3002		ELESQ101KA	COIL 100UH	1	
L3003		ELESQ120KA	COIL 12UH	1	
L3004		ELESQ101KA	COIL 100UH	1	
L3007		ELESQ6R8JA	COIL 6.8UH	1	
L3008		ELESQ101KA	COIL 100UH	1	
L4001		VLQEL07F153J	COIL 15MH	1	
L4002		ELESQ471KA	COIL 470UH	1	
L6001		VLP0074	COIL	1	
L6501		VLP0074	COIL	1	
L6701		ELESE101KA	COIL 100UH	1	
L7002		ELESQ101KA	COIL 100UH	1	
L7004		ELESQ1R0KA	COIL 1UH	1	
L7005		ELJPA470KB	COIL 47UH	1	
L7007		ELJFC1R0KB	COIL 1UH	1	
			CONNECTORS		
P202		VJS1237T	CONNECTOR (FEMALE)	1	
P1001		VJS3193E013A	CONNECTOR (FEMALE)	1	
P1506		VJS1736T	CONNECTOR (FEMALE) 3P	1	
P2501		VJS3193E015A	CONNECTOR (FEMALE)	1	
P2502		VJP1230T	CONNECTOR (MALE) 3P	1	
P2502		VJS1736T	CONNECTOR (FEMALE) 3P	1	
P2503		VJP1237T	CONNECTOR (MALE) 10P	1	
P2503		VJS1237T	CONNECTOR (FEMALE)	1	
P3001		VJS1658	CONNECTOR (FEMALE)	1	
P4002		VJP1230T	CONNECTOR (MALE) 3P	1	
P4002		VJS1230T	CONNECTOR (FEMALE)	1	
P4003		VJS2331	CONNECTOR (FEMALE) 6P	1	
P6001		VJS3193E013A	CONNECTOR (FEMALE)	1	
P6002		VJS1657	CONNECTOR (FEMALE)	1	
P6501		VJS3193E013A	CONNECTOR (FEMALE)	1	
PP3001		VJP3044G009W	CONNECTOR (MALE)	1	
PP3002		VJP3044G012W	CONNECTOR (MALE)	1	
PP3003		VJP3044G006W	CONNECTOR (MALE)	1	
PP3004		VJP3043G011W	CONNECTOR (MALE)	1	
PP3005		VJP3043G009W	CONNECTOR (MALE)	1	
PP6707		VJP3043G010W	CONNECTOR (MALE)	1	
PP7001-03		VJP3043A005W	CONNECTOR (MALE) 5P	3	
PP7004		VJP3043A006W	CONNECTOR (MALE) 6P	1	
PP7005		VJP3043A004W	CONNECTOR (MALE) 4P	1	
			TRANSISTORS		
Q2003		MSB709	TRANSISTOR	1	
Q2004		MSD601	TRANSISTOR-RESISTOR	1	
Q2502		2SB1321-R	TRANSISTOR	1	(R,S)
Q2504		MSB709	TRANSISTOR	1	
Q2505		MSD601	TRANSISTOR-RESISTOR	1	
Q2506		2SD1991	TRANSISTOR	1	
Q2507		2SD1991A	TRANSISTOR	1	
Q3001		MSB709-R	TRANSISTOR	1	
Q3002		MSD601-R	TRANSISTOR	1	
Q3003		MSC2295-B	TRANSISTOR	1	
Q3006		MSB710	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q3007		MSB710-R	TRANSISTOR	1	(R,S)
Q4001		MSD602-R	TRANSISTOR	1	
			COMBINATION PARTS		
QR1001		MRN1402	TRANSISTOR-RESISTOR	1	
QR2002		XN1213	TRANSISTOR-TRANSISTOR	1	
QR2007		MRN2404	TRANSISTOR-RESISTOR	1	
QR2008		UN2210	TRANSISTOR-RESISTOR	1	
QR3005		MRN2402	TRANSISTOR-RESISTOR	1	
QR3009		MRN1404	TRANSISTOR-RESISTOR	1	
QR4001		MRN1404	TRANSISTOR-RESISTOR	1	
QR4005		MRN2404	TRANSISTOR-RESISTOR	1	
QR6005		MRN1404	TRANSISTOR-RESISTOR	1	
QR6501		XN1211	TRANSISTOR-RESISTOR	1	
QR6502		UN2216	TRANSISTOR-RESISTOR	1	
QR7701		MRN1402	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R2002		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2003		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R2004		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
R2008		ERJ6GMYJ244	M.RESISTOR CH 1/10W 240K	1	
R2009,10		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2012		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2013		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R2015,16		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2018		ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R2021		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2024		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R2027,28		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R2034		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2035		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R2036		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2037		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R2038		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2039		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2501		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R2502		ERDS2FJ1R5	C.RESISTOR 1/4W 1.5	1	
R2503-05		ERDS2TJ150	C.RESISTOR 1/4W 15	3	
R2506		ERDS2FJ1R2	C.RESISTOR 1/4W 1.2	1	
R2507		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2508		EROS2CKG6800	M.RESISTOR 1/4W 680	1	
R2509		ERX12SJR47	M.RESISTOR CH 1/2W 0.47	1	
R2510-12		ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2513		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2514		ERDS1TJ561	C.RESISTOR 1/2W 560	1	
R2515		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2516		ERJ6GMYG432	M.RESISTOR CH 1/10W 4.3K	1	
R2517		ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R2518		ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R2519		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2520		ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R2521		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2522		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2523		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2524,25		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R2526		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2527		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2538,39		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	2	
R2542,43		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R2544		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R2545		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R2546		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R2551		ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R2554		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2555,56		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	2	
R2557		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2558		ERJ6GMYG201	M.RESISTOR 1/10W 200	1	
R2560		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2561,62		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2568		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3001		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3003		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3006		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	1	
R3007		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3008		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3009		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3013		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3014		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3015		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
R3016		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R3018		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R3026		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3027		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3028		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3029		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3030		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3037		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3038		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3040		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3043		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
R4001		ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	1	
R4003		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R4004		ERJ6GMYG221	M.RESISTOR 1/10W 220	1	
R4006		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R4007		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R4008		ERJ6GMYJ470	M.RESISTOR CH 1/10W 47	1	
R4010,11		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	2	
R4012		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R4013		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4014		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
R4015		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R4023		ERJ6GMYJ100	M.RESISTOR 1/10W 10	1	
R4024		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R4025		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R4027		ERJ6GMYJ394	M.RESISTOR CH 1/10W 390K	1	
R4028		ERJ6GMYG822	M.RESISTOR CH 1/10W 8.2K	1	
R4029		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4030		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4032		ERJ6GMYG912	M.RESISTOR CH 1/10W 9.1K	1	
R4033		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4034		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R4035		ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R4036		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4037		ERJ6GMYG622	M.RESISTOR CH 1/10W 6.2K	1	
R4038		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R4039		ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4040		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4041,42		ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	2	
R4043		ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R6002,03		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	2	
R6004		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6005		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R6006,07		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6008		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6013,14		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R6015		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6021		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6022,23		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R6024		ERJ6GMYJ101	M.RESISTOR 1/10W 100	1	
R6028-30		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R6031		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R6501		ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R6502		ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6503		ERJ6GMYG112	M.REISITOR CH 1/10W 1.1K	1	
R6504		ERX1SJ1R8	M.RESISTOR 1W 1.8	1	
R6505		ERJ6GMYJ564	M.RESISTOR CH 1/10W 560K	1	
R6506		VREOO34E512	M.RESISTOR CH 1/10W 5.1K	1	
R6507		VREOO34E472	M.RESISTOR CH 1/10W 4.7K	1	
R6508,09		VREOO34E103	M.RESISTOR CH 1/10W 10K	2	
R6510-12		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R6513-15		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	3	
R6517		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R6518		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R6712		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6713		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6714		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6715-19		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	5	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6724		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6726		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6728		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7005		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R7701		ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R7702		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
			TRANSFORMERS		
T4001		EIQ7QF014Q	TRANSFORMER	1	
			VARIABLE RESISTORS		
VR2001		EVNDXAA00B54	V.RESISTOR 50K	1	
VR2011		EVNDXAA00B15	V.RESISTOR 100K	1	
VR2019		EVNDXAA00B15	V.RESISTOR 100K	1	
VR3012		EVNDXAA00B52	V.RESISTOR 500	1	
VR4002		EVNDXAA00B25	V.RESISTOR 200K	1	
			CRYSTAL OSCILLATORS		
X6001		VSX0479	CRYSTAL OSCILLATOR	1	
X7701		VSQ0565	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VWJ0749	FLAT CARD CABLE	1	(P6501-P1505)
		VWJ15HW260MM	FLAT CARD CABLE	1	(P2501-P1507)
		VWJ10AW335MM	FLAT CARD CABLE	1	(P3001-P501)
		VWJ13HW105MM	FLAT CARD CABLE	1	(P1001-P1102)
		VWJ131W140BB	FLAT CARD CABLE	1	(P6001-P7501)
		VWJ090W140BB	FLAT CARD CABLE	1	(P6002-P7502)
		VEE8284	FLAT CARD CABLE	1	(P4002-FE HEAD)
		VEE8285	FLAT CARD CABLE	1	(P2503-P202)
		VEE8286	FLAT CARD CABLE	1	(P2502-P1508)
	■	VEP03971H	MAIN C.B.A.		(RTL)NV-SD40EG
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C1001		ECA1EM101	E.CAPACITOR 25V 100U	1	
C1002		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C1003		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C1004		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C2001		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2002		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2003		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2004		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C2005		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C2006		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2007		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C2008		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2009,10		ECEA1HKN3R3	E.CAPACITOR 50V 3.3U	2	
C2011		ECUM1H471JCN	C.CAPACITOR 50V 470P	1	
C2012		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2013		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2014		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2015		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C2016		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2017		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2018		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2019		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C2020		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2021		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C2022		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2023		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2024		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2501		ECEA1CK100	E.CAPACITOR 16V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2502		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2503-05		ECUM1H104KBM	C.CAPACITOR CH 50V 0.1U	3	
C2506		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2507-09		ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	3	
C2510		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C2511		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C2512		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2514		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2515-17		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	3	
C2518-21		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	4	
C2522		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C2523		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2524,25		ECEA1CK470	E.CAPACITOR 16V 47U	2	
C2526		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2527		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2528,29		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	2	
C2530		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2531		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C2532,33		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C2534,35		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	2	
C2536		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C2555		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2556		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2557		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2558		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2559		ECEA1AK330	E.CAPACITOR 10V 33U	1	
C3001		ECA0JM471	E.CPAACITOR 6.3V 470U	1	
C3003		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3005		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3006,07		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C3011		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3012		ECUM1H681JCN	C.CAPACITOR 50V 680P	1	
C3013		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3015		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3016		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3018		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3019		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3020		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3021		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C3022		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3023		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3026		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3029		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C3030		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3031		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3033		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3034		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3036		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4001		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4002		ECQB1H153JH	P.CAPACITOR 50V 0.015U	1	
C4003		ECQB1H273JH	P.CAPACITOR 50V 0.027U	1	
C4005		ECQB1H123JH	P.CAPACITOR 50V 0.01U	1	
C4007		ECUM1H681JCN	C.CAPACITOR 50V 680P	1	
C4008		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C4009		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C4010		ECEA1CK330	E.CAPACITOR 16V 33U	1	
C4011		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4012		ECQB1H102KZ	P.CAPACITOR 50V 1000P	1	
C4013		ECEA16M33	E.CAPACITOR 16V 33U	1	
C4014		ECQP1222JZ	P.CAPACITOR 0.0022U	1	
C4015		ECCD2H181J	C.CAPACITOR 500V 180P	1	
C4016		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C4017		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C4018		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4019		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4020		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4021		ECQB1H333KH	P.CAPACITOR 50V 0.033U	1	
C4022		ECUM1H471JCN	C.CAPACITOR 50V 470P	1	
C4023		ECEA10M22	E.CAPACITOR 10V 22U	1	
C4024		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4025		ECEA16M10R	E.CAPACITOR 16V 10U	1	
C4026		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C4027		ECQB1H822KZ	P.CAPACITOR 50V 8200P	1	
C4028		ECEA1CK100	E.CAPACITOR 16V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4029		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4030		ECUM1H102ZFN	C.CAPACITOR CH 50V 1000P	1	
C4031		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C4032		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C4033		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4034,35		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C4036		ECQV1H563JZ	P.CAPACITOR 50V 0.056U	1	
C4037		ECKF1H562KB	C.CAPACITOR 50V 5600P	1	
C4038		ECKF1H391KB	C.CAPACITOR 50V 390P	1	
C6001		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C6002		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C6003		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C6004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6005		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C6008		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C6009		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6010		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C6501		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6502		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C6503,04		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C6505		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6710		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6711		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C7001		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7002		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C7701		ECA0JM471	E.CPAACITOR 6.3V 470U	1	
C7702		EECS5R5T224N	E.CAPACITOR 5.5V 0.22U	1	
			DIODES		
D1005		MA178	DIODE	1	
D2002-06		1SS254	DIODE	5	
D2501-04		1SS254	DIODE	4	
D2509		1SS254	DIODE	1	
D2511,12		1SS254	DIODE	2	
D3002		1SS254	DIODE	1	
D4002,03		1SS254	DIODE	2	
D6002-05		1SS254	DIODE	4	
D6501-04		1SS254	DIODE	4	
D6711		1SS254	DIODE	1	
D6712		MA723VT	DIODE	1	(VT)
			CONNECTORS		
FE		VJS1141	CONNECTOR (FEMALE)	1	
			INTEGRATED CIRCUITS		
IC2501		NA3814K	IC	1	
IC2502		XRA6439P	IC	1	
IC2503		LM358PS	IC	1	
IC4001		XRA7766AS	IC	1	
IC6001		MN67434VRSA	IC	1	
IC6501		BA6219B	IC	1	
IC6502		LM358PS	IC	1	
IC6710		M66006FP	IC	1	
			COILS		
L2001		ELESQ101KA	COIL 100UH	1	
L2501		ELESQ101KA	COIL 100UH	1	
L2503		VLP0125	COIL	1	
L3002		ELESQ101KA	COIL 100UH	1	
L3003		ELESQ120KA	COIL 12UH	1	
L3004		ELESQ101KA	COIL 100UH	1	
L3006		ELESQ5R6KA	COIL 5.6UH	1	
L3007		ELESQ6R8JA	COIL 6.8UH	1	
L3008		ELESQ101KA	COIL 100UH	1	
L4001		VLQEL07F153J	COIL 15MH	1	
L4002		ELESQ471KA	COIL 470UH	1	
L4003		ELESQ101KA	COIL 100UH	1	
L4004		VLQ0123	COIL	1	
L6001		VLP0074	COIL	1	
L6501		VLP0074	COIL	1	
L6701		ELESE101KA	COIL 100UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L7002,03		ELESQ101KA	COIL 100UH	2	
L7004		ELESQ1R0KA	COIL 1UH	1	
L7007		ELJFC1R0KB	COIL 1UH	1	
			CONNECTORS		
P202		VJS1237T	CONNECTOR (FEMALE)	1	
P1001		VJS3193E013A	CONNECTOR (FEMALE)	1	
P1506		VJS1736T	CONNECTOR (FEMALE) 3P	1	
P2501		VJS3193E015A	CONNECTOR (FEMALE)	1	
P2502		VJP1230T	CONNECTOR (MALE) 3P	1	
P2502		VJS1736T	CONNECTOR (FEMALE) 3P	1	
P2503		VJP1237T	CONNECTOR (MALE) 10P	1	
P2503		VJS1237T	CONNECTOR (FEMALE)	1	
P3001		VJS3193E014A	CONNECTOR (FEMALE)	1	
P3903		VJS1230	CONNECTOR (FEMALE) 3P	1	
P4002	·	VJP1230T	CONNECTOR (MALE) 3P	1	
P4002		VJS1230T	CONNECTOR (FEMALE)	1	
P4003		VJS2331	CONNECTOR (FEMALE) 6P	1	
P6001		VJS3193E013A	CONNECTOR (FEMALE)	1	
P6002		VJS3193E015A	CONNECTOR (FEMALE)	1	
P6004		VJP1230T	CONNECTOR (MALE) 3P	1	
P6004		VJS1230	CONNECTOR (FEMALE) 3P	1	
P6501		VJS3193E013A	CONNECTOR (FEMALE)	1	
PP3001		VJP3044G009W	CONNECTOR (MALE)	1	
PP3002		VJP3044G012W	CONNECTOR (MALE)	1	
PP3003		VJP3044G006W	CONNECTOR (MALE)	1	
PP3004		VJP3043G011W	CONNECTOR (MALE)	1	
PP3005		VJP3043G009W	CONNECTOR (MALE)	1	
PP6707		VJP3043G010W	CONNECTOR (MALE)	1	
PP7001-03		VJP3043A005W	CONNECTOR (MALE) 5P	3	
PP7004		VJP3043A006W	CONNECTOR (MALE) 6P	1	
PP7005		VJP3043A004W	CONNECTOR (MALE) 4P	1	
			TRANSISTORS		
Q2001		MSD601	TRANSISTOR-RESISTOR	1	
Q2002,03		MSB709	TRANSISTOR	2	
Q2004		MSD601	TRANSISTOR-RESISTOR	1	
Q2502		2SB1321-R	TRANSISTOR	1	(R,S)
Q2504		MSB709	TRANSISTOR	1	
Q2505		MSD601	TRANSISTOR-RESISTOR	1	
Q2506		2SD1991	TRANSISTOR	1	
Q2507		2SD1991A	TRANSISTOR	1	
Q3001		MSB709-R	TRANSISTOR	1	
Q3002		MSD601-R	TRANSISTOR	1	
Q3003		MSC2295-B	TRANSISTOR	1	
Q3006		MSB710	TRANSISTOR	1	
Q3007		MSB710-R	TRANSISTOR	1	(R,S)
Q4001		MSD602-R	TRANSISTOR	1	
Q4002		2SB1378-R	TRANSISTOR	1	(R,S)
Q4004		2SD1991	TRANSISTOR	1	
Q4005		MSD601	TRANSISTOR-RESISTOR	1	
			COMBINATION PARTS		
QR1001		MRN1402	TRANSISTOR-RESISTOR	1	
QR2001		UN2116	TRANSISTOR-RESISTOR	1	
QR2002		XN1213	TRANSISTOR-TRANSISTOR	1	
QR2006,07		MRN2404	TRANSISTOR-RESISTOR	2	
QR2008		UN2210	TRANSISTOR-RESISTOR	1	
QR2009		MRN2404	TRANSISTOR-RESISTOR	1	
QR2010		UN2210	TRANSISTOR-RESISTOR	1	
QR2013		MRN2404	TRANSISTOR-RESISTOR	1	
QR3005		MRN2402	TRANSISTOR-RESISTOR	1	
QR3007,08		DTC363EK	COMBI.TR-R	2	
QR3009		MRN1404	TRANSISTOR-RESISTOR	1	
QR4001,02		MRN1404	TRANSISTOR-RESISTOR	2	
QR4004		DTC363EK	COMBI.TR-R	1	
QR4005		MRN2404	TRANSISTOR-RESISTOR	1	
QR6005		MRN1404	TRANSISTOR-RESISTOR	1	
QR6501		XN1211	TRANSISTOR-RESISTOR	1	
QR6502		UN2216	TRANSISTOR-RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR6710		MRN2404	TRANSISTOR-RESISTOR	1	
QR7701		MRN1402	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R2002		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2003		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R2004		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
R2005		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R2008		ERJ6GMYJ244	M.RESISTOR CH 1/10W 240K	1	
R2009,10		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2011		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R2012		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2013		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R2014		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R2015,16		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2018		ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R2019,20		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2021		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2024		ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	1	
R2025		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R2026		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R2029		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2034		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2035		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R2036		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2037		ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	1	
R2038		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2039		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2040		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R2501		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R2502		ERDS2FJ1R5	C.RESISTOR 1/4W 1.5	1	
R2503-05		ERDS2TJ150	C.RESISTOR 1/4W 15	3	
R2506		ERDS2FJ1R2	C.RESISTOR 1/4W 1.2	1	
R2507		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2508		EROS2CKG6800	M.RESISTOR 1/4W 680	1	
R2509		ERX12SJR47	M.RESISTOR CH 1/2W 0.47	1	
R2510-12		ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2513		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2514		ERDS1TJ561	C.RESISTOR 1/2W 560	1	
R2515		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2516		ERJ6GMYG432	M.RESISTOR CH 1/10W 4.3K	1	
R2517		ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R2518		ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R2519		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2520		ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R2521		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2522		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2523		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2524,25		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R2526		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2527		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2538,39		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	2	
R2542,43		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R2544		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R2545		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R2546		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R2551		ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R2554		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2555,56		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	2	
R2557		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2558		ERJ6GMYG201	M.RESISTOR 1/10W 200	1	
R2560		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2561,62		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2568		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3001		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3003		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R3006		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	1	
R3007		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3008		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3009		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3013		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3014		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3015		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
R3016		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3018		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R3025		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3026		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3027		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3028		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3029		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3030		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3037		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3038		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3040		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3041		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3043		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
R4001		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R4003		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R4004		ERJ6GMYG221	M.RESISTOR 1/10W 220	1	
R4005		ERJ6GMYJ101	M.RESISTOR 1/10W 100	1	
R4006		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R4007		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R4008		ERJ6GMYJ470	M.RESISTOR CH 1/10W 47	1	
R4010,11		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	2	
R4012		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R4013		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4014		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
R4015		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R4016		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4017		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4019		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R4023		ERJ6GMYJ100	M.RESISTOR 1/10W 10	1	
R4024		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R4025		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R4027		ERJ6GMYJ394	M.RESISTOR CH 1/10W 390K	1	
R4028		ERJ6GMYG822	M.RESISTOR CH 1/10W 8.2K	1	
R4029		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4030		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4031		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R4032		ERJ6GMYG912	M.RESISTOR CH 1/10W 9.1K	1	
R4033		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4034		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R4035		ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R4036		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4037		ERJ6GMYG622	M.RESISTOR CH 1/10W 6.2K	1	
R4038		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R4039		ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4040		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4041,42		ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	2	
R4043		ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R4046		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R6002,03		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	2	
R6004		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6005		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R6006,07		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6008		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6013,14		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R6015		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6021		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6022,23		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R6024		ERJ6GMYJ101	M.RESISTOR 1/10W 100	1	
R6028-30		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R6031		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R6501		ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R6502		ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6503		ERJ6GMYG112	M.REISITOR CH 1/10W 1.1K	1	
R6504		ERX1SJ1R8	M.RESISTOR 1W 1.8	1	
R6505		ERJ6GMYJ564	M.RESISTOR CH 1/10W 560K	1	
R6506		VREO034E512	M.RESISTOR CH 1/10W 5.1K	1	
R6507		VREO034E472	M.RESISTOR CH 1/10W 4.7K	1	
R6508,09		VREO034E103	M.RESISTOR CH 1/10W 10K	2	
R6510-12		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R6513-15		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	3	
R6517		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R6518		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R6713		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6714		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6715-19		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	5	
R6724		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6726		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6728		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7005		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R7701		ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R7702		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
			TRANSFORMERS		
T4001		EIQ7QF013Q	TRANSFORMER	1	
T4002		EIQ7QF012Q	I.F. TRANSFORMER	1	
			VARIABLE RESISTORS		
VR2001		EVNDXAA00B54	V.RESISTOR 50K	1	
VR2006		EVNDXAA00B15	V.RESISTOR 100K	1	
VR2011		EVNDXAA00B15	V.RESISTOR 100K	1	
VR2018,19		EVNDXAA00B15	V.RESISTOR 100K	2	
VR3012,13		EVNDXAA00B52	V.RESISTOR 500	2	
VR4002		EVNDXAA00B25	V.RESISTOR 200K	1	
			CRYSTAL OSCILLATORS		
X6001		VSX0479	CRYSTAL OSCILLATOR	1	
X7701		VSQ0565	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VWJ0749	FLAT CARD CABLE	1	(P6501-P1505)
		VWJ15HW260MM	FLAT CARD CABLE	1	(P2501-P1507)
		VWJ14AW335MM	FLAT CARD CABLE	1	(P3001-P501)
		VWJ13HW105MM	FLAT CARD CABLE	1	(P1001-P1102)
		VWJ131W140BB	FLAT CARD CABLE	1	(P6001-P7501)
		VWJ150W140BB	FLAT CARD CABLE	1	(P6002-P7502)
		VEE8471	FLAT CARD CABLE	1	(P6004-P3903)
		VEE8284	FLAT CARD CABLE	1	(P4002-FE HEAD)
		VEE8285	FLAT CARD CABLE	1	(P2503-P202)
		VEE8286	FLAT CARD CABLE	1	(P2502-P1508)
	■	VEP03971K	MAIN C.B.A.		(RTL)NV-SD40B
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C1001		ECA1EM101	E.CAPACITOR 25V 100U	1	
C1002		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C1003		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C1004		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C2001		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2002		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2003		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2004		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C2005		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C2006		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2007		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C2008		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2009,10		ECEA1HKN3R3	E.CAPACITOR 50V 3.3U	2	
C2011		ECUM1H471JCN	C.CAPACITOR 50V 470P	1	
C2012		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2013		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2014		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2015		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C2016		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2017		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2018		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2019		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C2020		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2021		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C2022		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2023		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2024		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2501		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2502		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2503-05		ECUM1H104KBM	C.CAPACITOR CH 50V 0.1U	3	
C2506		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2507-09		ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	3	
C2510		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C2511		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C2512		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2514		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2515-17		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	3	
C2518-21		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	4	
C2522		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C2523		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2524,25		ECEA1CK470	E.CAPACITOR 16V 47U	2	
C2526		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2527		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2528,29		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	2	
C2530		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2531		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C2532,33		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C2534,35		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	2	
C2536		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C2555		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2556		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2557		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2558		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2559		ECEA1AK330	E.CAPACITOR 10V 33U	1	
C3001		ECA0JM471	E.CPAACITOR 6.3V 470U	1	
C3003		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3005		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3006,07		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C3011		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3012		ECUM1H681JCN	C.CAPACITOR 50V 680P	1	
C3013		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3015		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3016		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3018		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3019		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3020		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3021		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C3022		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3023		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3026		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3029		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C3030		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3031		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3033		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3034		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3036		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4001		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4002		ECQB1H153JH	P.CAPACITOR 50V 0.015U	1	
C4003		ECQB1H273JH	P.CAPACITOR 50V 0.027U	1	
C4005		ECQB1H123JH	P.CAPACITOR 50V 0.01U	1	
C4007		ECUM1H681JCN	C.CAPACITOR 50V 680P	1	
C4008		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C4009		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C4010		ECEA1CK330	E.CAPACITOR 16V 33U	1	
C4011		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4012		ECQB1H102KZ	P.CAPACITOR 50V 1000P	1	
C4013		ECEA16M33	E.CAPACITOR 16V 33U	1	
C4014		ECQP1222JZ	P.CAPACITOR 0.0022U	1	
C4015		ECCD2H181J	C.CAPACITOR 500V 180P	1	
C4016		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C4017		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C4018		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4019		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4020		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4021		ECQB1H333KH	P.CAPACITOR 50V 0.033U	1	
C4022		ECUM1H471JCN	C.CAPACITOR 50V 470P	1	
C4023		ECEA10M22	E.CAPACITOR 10V 22U	1	
C4024		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4025		ECEA16M10R	E.CAPACITOR 16V 10U	1	
C4026		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4027		ECQB1H822KZ	P.CAPACITOR 50V 8200P	1	
C4028		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4029		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4030		ECUM1H102ZFN	C.CAPACITOR CH 50V 1000P	1	
C4031		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C4032		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C4033		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4034,35		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C4036		ECQV1H563JZ	P.CAPACITOR 50V 0.056U	1	
C4037		ECKF1H562KB	C.CAPACITOR 50V 5600P	1	
C6001		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C6002		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C6003		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C6004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6005		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C6008		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C6009		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6010		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C6501		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6502		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C6503,04		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C6505		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6710		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6711		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C7001		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7004		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C7005		ECKF1H471KB	C.CAPACITOR 50V 470P	1	
C7701		ECA0JM471	E.CPAACITOR 6.3V 470U	1	
C7702		EECS5R5T224N	E.CAPACITOR 5.5V 0.22U	1	
			DIODES		
D1005		MA178	DIODE	1	
D2002-06		1SS254	DIODE	5	
D2501-04		1SS254	DIODE	4	
D2509		1SS254	DIODE	1	
D2511,12		1SS254	DIODE	2	
D3002		1SS254	DIODE	1	
D4002,03		1SS254	DIODE	2	
D6002-05		1SS254	DIODE	4	
D6501-04		1SS254	DIODE	4	
D6711		1SS254	DIODE	1	
D6712		MA723VT	DIODE	1	(VT)
			CONNECTORS		
FE		VJS1141	CONNECTOR (FEMALE)	1	
			INTEGRATED CIRCUITS		
IC2501		NA3814K	IC	1	
IC2502		XRA6439P	IC	1	
IC2503		LM358PS	IC	1	
IC4001		XRA7766AS	IC	1	
IC6001		MN67434VRSA	IC	1	
IC6501		BA6219B	IC	1	
IC6502		LM358PS	IC	1	
IC6710		M66006FP	IC	1	
			COILS		
L2001		ELESQ101KA	COIL 100UH	1	
L2501		ELESQ101KA	COIL 100UH	1	
L3002		ELESQ101KA	COIL 100UH	1	
L3003		ELESQ120KA	COIL 12UH	1	
L3004		ELESQ101KA	COIL 100UH	1	
L3006		ELESQ5R6KA	COIL 5.6UH	1	
L3007		ELESQ6R8JA	COIL 6.8UH	1	
L3008		ELESQ101KA	COIL 100UH	1	
L4001		VLQEL07F153J	COIL 15MH	1	
L4002		ELESQ471KA	COIL 470UH	1	
L4003		ELESQ101KA	COIL 100UH	1	
L4004		VLQ0123	COIL	1	
L6001		VLP0074	COIL	1	
L6501		VLP0074	COIL	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L6701		ELESE101KA	COIL 100UH	1	
L7002		ELESQ101KA	COIL 100UH	1	
L7004		ELESQ1R0KA	COIL 1UH	1	
L7005		ELJPA470KB	COIL 47UH	1	
L7007		ELJFC1R0KB	COIL 1UH	1	
			CONNECTORS		
P202		VJS1237T	CONNECTOR (FEMALE)	1	
P1001		VJS3193E013A	CONNECTOR (FEMALE)	1	
P1506		VJS1736T	CONNECTOR (FEMALE) 3P	1	
P2501		VJS3193E015A	CONNECTOR (FEMALE)	1	
P2502		VJP1230T	CONNECTOR (MALE) 3P	1	
P2502		VJS1736T	CONNECTOR (FEMALE) 3P	1	
P2503		VJP1237T	CONNECTOR (MALE) 10P	1	
P2503		VJS1237T	CONNECTOR (FEMALE)	1	
P3001		VJS3193E014A	CONNECTOR (FEMALE)	1	
P3903		VJS1230	CONNECTOR (FEMALE) 3P	1	
P4002		VJP1230T	CONNECTOR (MALE) 3P	1	
P4002		VJS1230T	CONNECTOR (FEMALE)	1	
P4003		VJS2331	CONNECTOR (FEMALE) 6P	1	
P6001		VJS3193E013A	CONNECTOR (FEMALE)	1	
P6002		VJS3193E015A	CONNECTOR (FEMALE)	1	
P6004		VJP1230T	CONNECTOR (MALE) 3P	1	
P6004		VJS1230	CONNECTOR (FEMALE) 3P	1	
P6501		VJS3193E013A	CONNECTOR (FEMALE)	1	
PP3001		VJP3044G009W	CONNECTOR (MALE)	1	
PP3002		VJP3044G012W	CONNECTOR (MALE)	1	
PP3003		VJP3044G006W	CONNECTOR (MALE)	1	
PP3004		VJP3043G011W	CONNECTOR (MALE)	1	
PP3005		VJP3043G009W	CONNECTOR (MALE)	1	
PP6707		VJP3043G010W	CONNECTOR (MALE)	1	
PP7001-03		VJP3043A005W	CONNECTOR (MALE) 5P	3	
PP7004		VJP3043A006W	CONNECTOR (MALE) 6P	1	
PP7005		VJP3043A004W	CONNECTOR (MALE) 4P	1	
			TRANSISTORS		
Q2001		MSD601	TRANSISTOR-RESISTOR	1	
Q2002,03		MSB709	TRANSISTOR	2	
Q2004		MSD601	TRANSISTOR-RESISTOR	1	
Q2502		2SB1321-R	TRANSISTOR	1	(R,S)
Q2504		MSB709	TRANSISTOR	1	
Q2505		MSD601	TRANSISTOR-RESISTOR	1	
Q2506		2SD1991	TRANSISTOR	1	
Q2507		2SD1991A	TRANSISTOR	1	
Q3001		MSB709-R	TRANSISTOR	1	
Q3002		MSD601-R	TRANSISTOR	1	
Q3003		MSC2295-B	TRANSISTOR	1	
Q3006		MSB710	TRANSISTOR	1	
Q3007		MSB710-R	TRANSISTOR	1	(R,S)
Q4001		MSD602-R	TRANSISTOR	1	
Q4002		2SB1378-R	TRANSISTOR	1	(R,S)
Q4004		2SD1991	TRANSISTOR	1	
Q4005		MSD601	TRANSISTOR-RESISTOR	1	
			COMBINATION PARTS		
QR1001		MRN1402	TRANSISTOR-RESISTOR	1	
QR2001		UN2116	TRANSISTOR-RESISTOR	1	
QR2002		XN1213	TRANSISTOR-TRANSISTOR	1	
QR2006,07		MRN2404	TRANSISTOR-RESISTOR	2	
QR2008		UN2210	TRANSISTOR-RESISTOR	1	
QR2009		MRN2404	TRANSISTOR-RESISTOR	1	
QR2010		UN2210	TRANSISTOR-RESISTOR	1	
QR2013		MRN2404	TRANSISTOR-RESISTOR	1	
QR3005		MRN2402	TRANSISTOR-RESISTOR	1	
QR3007,08		DTC363EK	COMBI.TR-R	2	
QR4001,02		MRN1404	TRANSISTOR-RESISTOR	2	
QR4004		DTC363EK	COMBI.TR-R	1	
QR4005		MRN2404	TRANSISTOR-RESISTOR	1	
QR6005		MRN1404	TRANSISTOR-RESISTOR	1	
QR6501		XN1211	TRANSISTOR-RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR6502		UN2216	TRANSISTOR-RESISTOR	1	
QR7701		MRN1402	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R2002		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2003		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R2004		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
R2005		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R2008		ERJ6GMYJ244	M.RESISTOR CH 1/10W 240K	1	
R2009,10		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2011		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R2012		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2013		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R2014		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R2015,16		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2018		ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R2019,20		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2021		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2024		ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	1	
R2025		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R2026		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R2029		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2034		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2035		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R2036		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2037		ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	1	
R2038		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2039		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2040		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R2501		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R2502		ERDS2FJ1R5	C.RESISTOR 1/4W 1.5	1	
R2503-05		ERDS2TJ150	C.RESISTOR 1/4W 15	3	
R2506		ERDS2FJ1R2	C.RESISTOR 1/4W 1.2	1	
R2507		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2508		EROS2CKG6800	M.RESISTOR 1/4W 680	1	
R2509		ERX12SJR47	M.RESISTOR CH 1/2W 0.47	1	
R2510-12		ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2513		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2514		ERDS1TJ561	C.RESISTOR 1/2W 560	1	
R2515		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2516		ERJ6GMYG432	M.RESISTOR CH 1/10W 4.3K	1	
R2517		ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R2518		ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R2519		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2520		ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R2521		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2522		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2523		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2524,25		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R2526		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2527		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2538,39		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	2	
R2542,43		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R2544		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R2545		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R2546		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R2551		ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R2554		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2555,56		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	2	
R2557		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2558		ERJ6GMYG201	M.RESISTOR 1/10W 200	1	
R2560		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2561,62		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2568		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3001		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3003		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R3006		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	1	
R3007		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3008		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3009		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3013		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3014		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3015		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3016		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R3018		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R3025		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3026		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3027		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3028		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3029		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3030		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3037		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3038		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3040		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3041		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3043		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
R4001		ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	1	
R4003		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R4004		ERJ6GMYG221	M.RESISTOR 1/10W 220	1	
R4005		ERJ6GMYJ101	M.RESISTOR 1/10W 100	1	
R4006		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R4007		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R4008		ERJ6GMYJ470	M.RESISTOR CH 1/10W 47	1	
R4010,11		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	2	
R4012		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R4013		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4014		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
R4015		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R4016		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4017		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4019		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R4023		ERJ6GMYJ100	M.RESISTOR 1/10W 10	1	
R4024		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R4025		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R4027		ERJ6GMYJ394	M.RESISTOR CH 1/10W 390K	1	
R4028		ERJ6GMYG822	M.RESISTOR CH 1/10W 8.2K	1	
R4029		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4030		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4031		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R4032		ERJ6GMYG912	M.RESISTOR CH 1/10W 9.1K	1	
R4033		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4034		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R4035		ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R4036		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4037		ERJ6GMYG622	M.RESISTOR CH 1/10W 6.2K	1	
R4038		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R4039		ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4040		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4041,42		ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	2	
R4043		ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R4046		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R6002,03		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	2	
R6004		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6005		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R6006,07		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6008		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6013,14		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R6015		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6021		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6022,23		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R6024		ERJ6GMYJ101	M.RESISTOR 1/10W 100	1	
R6028-30		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R6031		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R6501		ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R6502		ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6503		ERJ6GMYG112	M.REISITOR CH 1/10W 1.1K	1	
R6504		ERX1SJ1R8	M.RESISTOR 1W 1.8	1	
R6505		ERJ6GMYJ564	M.RESISTOR CH 1/10W 560K	1	
R6506		VREO034E512	M.RESISTOR CH 1/10W 5.1K	1	
R6507		VREO034E472	M.RESISTOR CH 1/10W 4.7K	1	
R6508,09		VREO034E103	M.RESISTOR CH 1/10W 10K	2	
R6510-12		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R6513-15		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	3	
R6517		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R6518		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R6712		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6713		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6714		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6715-19		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	5	
R6724		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6726		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6728		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7005		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R7701		ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R7702		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
			TRANSFORMERS		
T4001		EIQ7QF013Q	TRANSFORMER	1	
T4002		EIQ7QF012Q	I.F. TRANSFORMER	1	
			VARIABLE RESISTORS		
VR2001		EVNDXAA00B54	V.RESISTOR 50K	1	
VR2006		EVNDXAA00B15	V.RESISTOR 100K	1	
VR2011		EVNDXAA00B15	V.RESISTOR 100K	1	
VR2018,19		EVNDXAA00B15	V.RESISTOR 100K	2	
VR3012,13		EVNDXAA00B52	V.RESISTOR 500	2	
VR4002		EVNDXAA00B25	V.RESISTOR 200K	1	
			CRYSTAL OSCILLATORS		
X6001		VSX0479	CRYSTAL OSCILLATOR	1	
X7701		VSQ0565	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VWJ0749	FLAT CARD CABLE	1	(P6501-P1505)
		VWJ15HW260MM	FLAT CARD CABLE	1	(P2501-P1507)
		VWJ14AW335MM	FLAT CARD CABLE	1	(P3001-P501)
		VWJ13HW105MM	FLAT CARD CABLE	1	(P1001-P1102)
		VWJ131W140BB	FLAT CARD CABLE	1	(P6001-P7501)
		VWJ150W140BB	FLAT CARD CABLE	1	(P6002-P7502)
		VEE8471	FLAT CARD CABLE	1	(P6004-P3903)
		VEE8284	FLAT CARD CABLE	1	(P4002-FE HEAD)
		VEE8285	FLAT CARD CABLE	1	(P2503-P202)
		VEE8286	FLAT CARD CABLE	1	(P2502-P1508)
	■	VEP03973B	INPUT/OUTPUT PACK C.B.A.		(RTL)NV-SD30EG
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C3101,02		ECEA1CK470	E.CAPACITOR 16V 47U	2	
C3103,04		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	2	
C3105		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3901,02		ECEA1CK330	E.CAPACITOR 16V 33U	2	
C3903		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C3904-06		ECEA1CK470	E.CAPACITOR 16V 47U	3	
C3907,08		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	2	
C3909		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C3911		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C3912		ECUM1H471JCN	C.CAPACITOR 50V 470P	1	
C3922		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3925		ECEA05KJ471	E.CAPACITOR 5V 470U	1	
C3931		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3932		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C3933-35		ECEA1CKN100	E.CAPACITOR 16V 10U	3	
			DIODES		
D3101		1SS254	DIODE	1	
D3901,02		1SS254	DIODE	2	
D3905,06		1SS254	DIODE	2	
			INTEGRATED CIRCUITS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC3101		BA7004	IC	1	
IC3901		LA7150	IC	1	
IC3902		UPD4066BG	IC	1	
			CONNECTORS		
JK3906		VJS1469	CONNECTOR (FEMALE)	1	
			COILS		
L3101		ELESQ101KA	COIL 100UH	1	
L3901		ELESQ2R7KA	COIL 2.7UH	1	
L3903		ELESQ1R0KA	COIL 1UH	1	
L3905		ELESQ101KA	COIL 100UH	1	
			CONNECTORS		
PS3901		VJS3043F009W	CONNECTOR (FEMALE)	1	
PS3902		VJS3043F011W	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q3101		2SC3311	TRANSISTOR	1	
Q3901		2SB1320	TRANSISTOR	1	
			COMBINATION PARTS		
QR3901		MRN2404	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R3101		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3102		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3103,04		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R3105		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3901		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	1	
R3902		ERDS2TJ750	C.RESISTOR 1/4W 75	1	
R3903,04		ERJ6GEYJ242	M.RESISTOR CH 1/10W 2.4K	2	
R3905		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3906		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3907		ERJ6GEYJ912	M.RESISTOR CH 1/10W 9.1K	1	
R3908,09		ERDS2TJ151	C.RESISTOR 1/4W 150	2	
R3910		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3918		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3923		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R3924		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3925		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3928		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3929,30		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
			SWITCHES		
SW3901		ESD172211	SWITCH	1	
			CRYSTAL OSCILLATORS		
X3101		VSX0099	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VEJ1336	JACK PLATE	1	
	■	VEP03973D	INPUT/OUTPUT PACK C.B.A.		(RTL)NV-SD30B
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C3101,02		ECEA1CK470	E.CAPACITOR 16V 47U	2	
C3103,04		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3105		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3901,02		ECEA1CK330	E.CAPACITOR 16V 33U	2	
C3903		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C3904-06		ECEA1CK470	E.CAPACITOR 16V 47U	3	
C3907,08		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	2	
C3909		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C3911		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C3912		ECUM1H471JCN	C.CAPACITOR 50V 470P	1	
C3922		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
			DIODES		
D3101		1SS254	DIODE	1	
D3901,02		1SS254	DIODE	2	
			INTEGRATED CIRCUITS		
IC3101		BA7004	IC	1	
IC3901		LA7150	IC	1	
			CONNECTORS		
JK3906		VJS1469	CONNECTOR (FEMALE)	1	
			COILS		
L3101		ELESQ101KA	COIL 100UH	1	
L3901		ELESQ2R7KA	COIL 2.7UH	1	
			CONNECTORS		
PS3901		VJS3043F009W	CONNECTOR (FEMALE)	1	
PS3902		VJS3043F011W	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q3101		2SC3311	TRANSISTOR	1	
			RESISTORS		
R3101		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3102		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3103,04		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R3105		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3901		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	1	
R3902		ERDS2TJ750	C.RESISTOR 1/4W 75	1	
R3903,04		ERJ6GEYJ242	M.RESISTOR CH 1/10W 2.4K	2	
R3905		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3906		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3907		ERJ6GEYJ912	M.RESISTOR CH 1/10W 9.1K	1	
R3908,09		ERDS2TJ151	C.RESISTOR 1/4W 150	2	
R3918		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3925		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3928		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
			SWITCHES		
SW3901		ESD172211	SWITCH	1	
			CRYSTAL OSCILLATORS		
X3101		VSX0099	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VEJ1336	JACK PLATE	1	
	■	VEP03973A	INPUT/OUTPUT PACK C.B.A.		(RTL)NV-SD40EG

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C3101,02		ECEA1CK470	E.CAPACITOR 16V 47U	2	
C3103,04		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	2	
C3105		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3901,02		ECEA1CK330	E.CAPACITOR 16V 33U	2	
C3903		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C3904-06		ECEA1CK470	E.CAPACITOR 16V 47U	3	
C3907,08		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	2	
C3909		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C3911		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C3912		ECUM1H471JCN	C.CAPACITOR 50V 470P	1	
C3920		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C3922		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3925		ECEA05KJ471	E.CAPACITOR 5V 470U	1	
C3926-28		ECEA1CK100	E.CAPACITOR 16V 10U	3	
C3929		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C3931		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3932		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C3933-35		ECEA1CKN100	E.CAPACITOR 16V 10U	3	
			DIODES		
D3101		1SS254	DIODE	1	
D3901,02		1SS254	DIODE	2	
D3905,06		1SS254	DIODE	2	
D3910-13		MA165VT	DIODE	4	
			INTEGRATED CIRCUITS		
IC3101		BA7004	IC	1	
IC3901		LA7150	IC	1	
IC3902		UPD4066BG	IC	1	
IC3903		UPD4053BG	IC	1	
			CONNECTORS		
JK3906		VJS1469	CONNECTOR (FEMALE)	1	
			COILS		
L3101		ELESQ101KA	COIL 100UH	1	
L3901		ELESQ2R7KA	COIL 2.7UH	1	
L3903		ELESQ1R0KA	COIL 1UH	1	
L3905		ELESQ101KA	COIL 100UH	1	
			CONNECTORS		
P3903		VJP1243	CONNECTOR (MALE) 3P	1	
PS3901		VJS3043F009W	CONNECTOR (FEMALE)	1	
PS3902		VJS3043F011W	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q3101		2SC3311	TRANSISTOR	1	
Q3901		2SB1320	TRANSISTOR	1	
			COMBINATION PARTS		
QR3901		MRN2404	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R3101		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3102		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3103,04		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R3105		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3901		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	1	
R3902		ERDS2TJ750	C.RESISTOR 1/4W 75	1	
R3903,04		ERJ6GEYJ242	M.RESISTOR CH 1/10W 2.4K	2	
R3905		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3906		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3907		ERJ6GEYJ912	M.RESISTOR CH 1/10W 9.1K	1	
R3908,09		ERDS2TJ151	C.RESISTOR 1/4W 150	2	
R3910		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3911		ERJ6GEYJ433	M.RESISTOR CH 1/10W 43K	1	
R3912		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3913		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	1	
R3917		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3918		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3919		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3920		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	1	
R3923		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R3924		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3925		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3926		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3928		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3929,30		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R3931,32		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	2	
			SWITCHES		
SW3901		ESD172211	SWITCH	1	
			CRYSTAL OSCILLATORS		
X3101		VSX0099	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VEJ1338	JACK PLATE	1	
	■	VEP03973C	INPUT/OUTPUT PACK C.B.A.		(RTL)NV-SD40B
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C3101,02		ECEA1CK470	E.CAPACITOR 16V 47U	2	
C3103,04		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	2	
C3105		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3901,02		ECEA1CK330	E.CAPACITOR 16V 33U	2	
C3903		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C3904-06		ECEA1CK470	E.CAPACITOR 16V 47U	3	
C3907,08		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	2	
C3909		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C3911		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C3912		ECUM1H471JCN	C.CAPACITOR 50V 470P	1	
C3920		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C3922		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3926-28		ECEA1CK100	E.CAPACITOR 16V 10U	3	
C3929		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
			DIODES		
D3101		1SS254	DIODE	1	
D3901,02		1SS254	DIODE	2	
D3910-13		MA165VT	DIODE	4	
			INTEGRATED CIRCUITS		
IC3101		BA7004	IC	1	
IC3901		LA7150	IC	1	
IC3903		UPD4053BG	IC	1	
			CONNECTORS		
JK3906		VJS1469	CONNECTOR (FEMALE)	1	
			COILS		
L3101		ELESQ101KA	COIL 100UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L3901		ELESQ2R7KA	COIL 2.7UH	1	
			CONNECTORS		
P3903		VJP1243	CONNECTOR (MALE) 3P	1	
PS3901		VJS3043F009W	CONNECTOR (FEMALE)	1	
PS3902		VJS3043F011W	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q3101		2SC3311	TRANSISTOR	1	
			RESISTORS		
R3101		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3102		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3103,04		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R3105		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3901		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	1	
R3902		ERDS2TJ750	C.RESISTOR 1/4W 75	1	
R3903,04		ERJ6GEYJ242	M.RESISTOR CH 1/10W 2.4K	2	
R3905		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3906		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3907		ERJ6GEYJ912	M.RESISTOR CH 1/10W 9.1K	1	
R3908,09		ERDS2TJ151	C.RESISTOR 1/4W 150	2	
R3911		ERJ6GEYJ433	M.RESISTOR CH 1/10W 43K	1	
R3912		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3913		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	1	
R3917		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3918		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3919		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3920		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	1	
R3925		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3926		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3928		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3931,32		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	2	
			SWITCHES		
SW3901		ESD172211	SWITCH	1	
			CRYSTAL OSCILLATORS		
X3101		VSX0099	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VEJ1338	JACK PLATE	1	
	■	VEP03A01A1PE	LUMINANCE & CHROMINANCE		(RTL)NV-SD30EG
			PACK C.B.A.		SUPPLIED FROM M.B.V.
			CAPACITORS		
C301		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C302		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C303,04		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C305,06		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	2	
C307		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C308		ECUX1H560JCV	C.CAPACITOR 50V 56P	1	
C309		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C310		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C311		ECUX1H080DCV	C.CAPACITOR CH 50V 8P	1	
C312		ECUX1H270JCV	C.CAPACITOR 50V 27P	1	
C313		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C314		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C315		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C316		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C317		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C318		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C319		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C320		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C321		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C322		ECUX1H333KBV	C.CAPACITOR CH 50V 0.033U	1	
C323		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C324,25		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C326		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C327		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C328		ECUX1H821JCV	C.CAPACITOR 50V 820P	1	
C329		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C330		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C331		ECUX1H560JCV	C.CAPACITOR 50V 56P	1	
C332		ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C333		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C334		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C336		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C337		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C338,39		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C340		ECUX1H223ZFV	C.CAPACITOR 50V 0.022U	1	
C341		ECUX1H470JCV	C.CAPACITOR 50V 47P	1	
C342		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C801-05		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	5	
C806		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C808		ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C811		ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C813		ECUX1H181JCV	C.CAPACITOR 50V 180P	1	
C814		ECUX1H270JCV	C.CAPACITOR 50V 27P	1	
C815		ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C817		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
C839		ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C840		ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C841		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C842		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C843		ECUX1H2232FV	C.CAPACITOR 50V 0.022U	1	
C844		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C845		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C846		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C847		ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C848		ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C849		ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C850		ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C851		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C852		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
C853		ECUX1H180JCV	C.CAPACITOR 50V 18P	1	
C854		ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C855		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C856		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C857		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C858		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C859		ECEA1HKAR33	E.CAPACITOR 50V 0.33U	1	
C860		ECUX1H333KBV	C.CAPACITOR CH 50V 0.033U	1	
C861		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C862		ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C868		ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C891,92		ECUX1H2232FV	C.CAPACITOR 50V 0.022U	2	
			DIODES		
D303,04		MA141K	DIODE	2	
D307		1SS283	DIODE	1	
D310		MA141K	DIODE	1	
D381		MA165	DIODE	1	
			DELAYS		
DL802		EFDBR124A53T	DELAY	1	
			INTEGRATED CIRCUITS		
IC301		MSM7403MS	IC	1	
IC302		TDA9715	IC	1	SUPPLIED FROM M.B.V.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			COILS		
L301		VLQEL05S330K	COIL 33UH	1	
L302,03		VLQEL05S390K	COIL 39UH	2	
L304		ELESE101KA	COIL 100UH	1	
L306		VLQEL05S820J	COIL 82UH	1	
L307		ELESE101KA	COIL 100UH	1	
L308		VLQEL05S390K	COIL 39UH	1	
L802		VLQEL05S101K	COIL 100UH	1	
L803		ELESE270KA	COIL 27UH	1	
L805		VLQEL05S150K	COIL 15UH	1	
L808		ELESN6R8JA	COIL 6.8UH	1	
L809-11		ELESE101KA	COIL 100UH	3	
L813		ELESE101KA	COIL 100UH	1	
			CONNECTORS		
PS301		VJS3044F009W	CONNECTOR (FEMALE)	1	
PS302		VJS3044F012W	CONNECTOR (FEMALE)	1	
PS303		VJS3044F006W	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q301		2SC3930	TRANSISTOR	1	
Q302		2SB1218A	TRANSISTOR	1	
Q802		2SD1819A	TRANSISTOR	1	
Q804		2SC3930	TRANSISTOR	1	
			COMBINATION PARTS		
QR807		UN5213	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R301		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R302		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R303,04		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	2	
R305,06		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R307		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R308,09		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R310		ERJ6GEYJ125	M.RESISTOR CH 1/10W 1.2M	1	
R311		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R316,17		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R319		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R320		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R321		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R322		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R325		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R328		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R329		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R331,32		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R333		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R334,35		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	2	
R337		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R338		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R380		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R396		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R801		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R802		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R803		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R804		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R805		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R809		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R811		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R812		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R813,14		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	2	
R815		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R826		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R827		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R835		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R836		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R837		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R838		ERJ6GEYF271	M.RESISTOR CH 1/10W 270	1	
R839		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R840		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R843		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R853		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R855		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R856		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
			VARIABLE RESISTORS		
VR301		EVMEASA00B13	V.RESISTOR	1	
VR302		EVMEASA00B14	V.RESISTOR	1	
VR303,04		EVMEASA00B53	V.RESISTOR	2	
VR305,06		EVMEASA00B14	V.RESISTOR	2	
			CRYSTAL OSCILLATORS		
X801		VSX0162	CRYSTAL OSCILLATOR	1	
	■	VEP03A01BPE	LUMINANCE & CHROMINANCE		(RTL)NV-SD30B
			PACK C.B.A.		SUPPLIED FROM M.B.V.
			CAPACITORS		
C301		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C302		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C303,04		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C305,06		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	2	
C307		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C308		ECUX1H560JCV	C.CAPACITOR 50V 56P	1	
C309		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C310		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C311		ECUX1H080DCV	C.CAPACITOR CH 50V 8P	1	
C312		ECUX1H270JCV	C.CAPACITOR 50V 27P	1	
C313		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C314		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C315		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C316		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C317		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C318		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C319		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C320		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C321		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C322		ECUX1H333KBV	C.CAPACITOR CH 50V 0.033U	1	
C323		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C325		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C326		ECUX1H222JCV	C.CAPACITOR CH 50V 2200P	1	
C327		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C328		ECUX1H821JCV	C.CAPACITOR 50V 820P	1	
C329		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C330		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C331		ECUX1H330JCV	C.CAPACITOR 50V 33P	1	
C332		ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C333		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C334		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C336		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C337		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C338,39		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C340		ECUX1H223ZFV	C.CAPACITOR 50V 0.022U	1	
C341		ECUX1H470JCV	C.CAPACITOR 50V 47P	1	
C342		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C381		ECUX1H104ZFV	C.CAPACITOR 50V 0.1U	1	
C801-05		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	5	
C806		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C808		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C811		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C813		ECUX1H181JCV	C.CAPACITOR 50V 180P	1	
C814		ECUX1H270JCV	C.CAPACITOR 50V 27P	1	
C815		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C820		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C821,22		ECUX1H560JCV	C.CAPACITOR 50V 56P	2	
C823,24		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C825		ECUX1H470JCV	C.CAPACITOR 50V 47P	1	
C826-31		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	6	
C832		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C833		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C834		ECUX1H470JCV	C.CAPACITOR 50V 47P	1	
C835		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C836		ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C837		ECQB1H332JH	P.CAPACITOR 50V 3300P	1	
C838		ECUX1H331JCV	C.CAPACITOR 50V 330P	1	
C839		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C840		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C841		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C842		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C843		ECUX1H223ZFV	C.CAPACITOR 50V 0.022U	1	
C844		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C845		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C846		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C847		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C848		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C849		ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C850		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C851		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C852		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
C853		ECUX1H180JCV	C.CAPACITOR 50V 18P	1	
C854		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C855		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C856		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C857		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C858		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C859		ECEA1HKAR33	E.CAPACITOR 50V 0.33U	1	
C860		ECUX1H333KBV	C.CAPACITOR CH 50V 0.033U	1	
C861		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C862		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
			DIODES		
D301		MA141K	DIODE	1	
D303,04		MA141K	DIODE	2	
D307		1SS283	DIODE	1	
D310		MA141K	DIODE	1	
D381		MA165	DIODE	1	
			DELAYS		
DL802		EFDWLA13A	DELAY	1	
			INTEGRATED CIRCUITS		
IC301		MSM7403MS	IC	1	
IC302		TDA9715	IC	1	SUPPLIED FROM M.B.V.
IC801		M52352FP	IC	1	
			COILS		
L301		VLQEL05S330K	COIL 33UH	1	
L302,03		VLQEL05S390K	COIL 39UH	2	
L304		ELESE101KA	COIL 100UH	1	
L306		VLQEL05S820J	COIL 82UH	1	
L307		ELESE101KA	COIL 100UH	1	
L308		VLQEL05S390K	COIL 39UH	1	
L802		VLQEL05S101K	COIL 100UH	1	
L803		ELESE270KA	COIL 27UH	1	
L805,06		VLQEL05S150K	COIL 15UH	2	
L807		VLQEL05S101K	COIL 100UH	1	
L808		ELESN6R8JA	COIL 6.8UH	1	
L809-11		ELESE101KA	COIL 100UH	3	
L813		ELESE101KA	COIL 100UH	1	
			CONNECTORS		
PS301		VJS3044F009W	CONNECTOR (FEMALE)	1	
PS302		VJS3044F012W	CONNECTOR (FEMALE)	1	
PS303		VJS3044F006W	CONNECTOR (FEMALE)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			TRANSISTORS		
Q301		2SC3930	TRANSISTOR	1	
Q302		2SB1218A	TRANSISTOR	1	
Q802		2SD1819A	TRANSISTOR	1	
Q804		2SC3930	TRANSISTOR	1	
			COMBINATION PARTS		
QR801		UN5213	TRANSISTOR-RESISTOR	1	
QR804		UN5113	TRANSISTOR	1	
QR807		UN5213	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R301		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R302		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R303,04		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	2	
R305,06		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R307		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R308,09		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R310		ERJ6GEYJ125	M.RESISTOR CH 1/10W 1.2M	1	
R311		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R312		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R317		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R319		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R320		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R321		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R322		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R325		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R328		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R329		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R331,32		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R333		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R334,35		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	2	
R337		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R338		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R380		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R382		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R801		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R802		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R803		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R804		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R805		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R809		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R811		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R812		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R813,14		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	2	
R819,20		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	2	
R821		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R822		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R823		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R824,25		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	2	
R826		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R827,28		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	2	
R829		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R830		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R832		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R833		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R834		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R835		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R836		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R837		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R838		ERJ6GEYF271	M.RESISTOR CH 1/10W 270	1	
R839		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R840		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R843		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R853		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R855		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R856		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
			VARIABLE RESISTORS		
VR301		EVMEASA00B13	V.RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VR302		EVMEASA00B14	V.RESISTOR	1	
VR303,04		EVMEASA00B53	V.RESISTOR	2	
VR305,06		EVMEASA00B14	V.RESISTOR	2	
VR801		EVMEASA00B14	V.RESISTOR	1	
			CRYSTAL OSCILLATORS		
X801		VSX0162	CRYSTAL OSCILLATOR	1	
	■	VEP03A01DPE	LUMINANCE & CHROMINANCE		(RTL)NV-SD40EG
			PACK C.B.A.		SUPPLIED FROM M.B.V.
			CAPACITORS		
C301		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C302		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C303,04		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C305,06		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	2	
C307		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C308		ECUX1H560JCV	C.CAPACITOR 50V 56P	1	
C309		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C310		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C311		ECUX1H080DCV	C.CAPACITOR CH 50V 8P	1	
C312		ECUX1H270JCV	C.CAPACITOR 50V 27P	1	
C313		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C314		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C315		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C316		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C317		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C318		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C319		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C320		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C321		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C322		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C323		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C325		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C326		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C327		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C328		ECUX1H821JCV	C.CAPACITOR 50V 820P	1	
C329		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C330		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C331		ECUX1H560JCV	C.CAPACITOR 50V 56P	1	
C332		ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C333		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C334		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C336		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C337		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C338,39		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C340		ECUX1H223ZFV	C.CAPACITOR 50V 0.022U	1	
C341		ECUX1H470JCV	C.CAPACITOR 50V 47P	1	
C342		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C381		ECUX1H104ZFV	C.CAPACITOR 50V 0.1U	1	
C801-05		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	5	
C806		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C808		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C811		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C813		ECUX1H181JCV	C.CAPACITOR 50V 180P	1	
C814		ECUX1H270JCV	C.CAPACITOR 50V 27P	1	
C815		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C820		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C821,22		ECUX1H560JCV	C.CAPACITOR 50V 56P	2	
C823,24		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C825		ECUX1H470JCV	C.CAPACITOR 50V 47P	1	
C826-31		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	6	
C832		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C833		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C834		ECUX1H470JCV	C.CAPACITOR 50V 47P	1	
C835		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C836		ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C837		ECQB1H332JH	P.CAPACITOR 50V 3300P	1	
C838		ECUX1H331JCV	C.CAPACITOR 50V 330P	1	
C839		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C840		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C841		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C842		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C843		ECUX1H223ZFV	C.CAPACITOR 50V 0.022U	1	
C844		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C845		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C846		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C847		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C848		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C849		ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C850		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C851		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C852		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
C853		ECUX1H180JCV	C.CAPACITOR 50V 18P	1	
C854		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C855		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C856		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C857		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C858		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C859		ECEA1HKAR33	E.CAPACITOR 50V 0.33U	1	
C860		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C861		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C862		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C863		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C864		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C865,66		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C868		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C891,92		ECUX1H223ZFV	C.CAPACITOR 50V 0.022U	2	
			DIODES		
D301		MA141K	DIODE	1	
D303,04		MA141K	DIODE	2	
D307		1SS283	DIODE	1	
D310		MA141K	DIODE	1	
D381		MA165	DIODE	1	
D802		MA141K	DIODE	1	
			DELAYS		
DL801		EFDUN124A13N	DELAY	1	
DL802		EFDWLA13A	DELAY	1	
			INTEGRATED CIRCUITS		
IC301		MSM7403MS	IC	1	
IC302		TDA9715	IC	1	SUPPLIED FROM M.B.V.
IC801		M52352FP	IC	1	
			COILS		
L301		VLQEL05S330K	COIL 33UH	1	
L302,03		VLQEL05S390K	COIL 39UH	2	
L304		ELESE101KA	COIL 100UH	1	
L306		VLQEL05S820J	COIL 82UH	1	
L307		ELESE101KA	COIL 100UH	1	
L308		VLQEL05S390K	COIL 39UH	1	
L802		VLQEL05S101K	COIL 100UH	1	
L803		ELESE270KA	COIL 27UH	1	
L805,06		VLQEL05S150K	COIL 15UH	2	
L807		VLQEL05S101K	COIL 100UH	1	
L808		ELESN6R8JA	COIL 6.8UH	1	
L809-11		ELESE101KA	COIL 100UH	3	
L813		ELESE101KA	COIL 100UH	1	
L814,15		VLQEL05S150K	COIL 15UH	2	
			CONNECTORS		
PS301		VJS3044F009W	CONNECTOR (FEMALE)	1	
PS302		VJS3044F012W	CONNECTOR (FEMALE)	1	
PS303		VJS3044F006W	CONNECTOR (FEMALE)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			TRANSISTORS		
Q301		2SC3930	TRANSISTOR	1	
Q302		2SB1218A	TRANSISTOR	1	
Q802		2SD1819A	TRANSISTOR	1	
Q804,05		2SC3930	TRANSISTOR	2	
Q806		2SD1819A	TRANSISTOR	1	
Q807		2SB1218A	TRANSISTOR	1	
			COMBINATION PARTS		
QR801		UN5213	TRANSISTOR-RESISTOR	1	
QR804		UN5113	TRANSISTOR	1	
QR806		UN5113	TRANSISTOR	1	
QR807		UN5213	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R301		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R302		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R303,04		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	2	
R305,06		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R307		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R308,09		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R310		ERJ6GEYJ125	M.RESISTOR CH 1/10W 1.2M	1	
R311		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R312		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R317		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R319		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R320		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R321		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R322		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R325		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R328		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R329		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R331,32		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R333		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R334,35		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	2	
R337		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R338		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R380		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R382		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R801		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R802		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R803		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R804		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R805		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R809		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R811		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R812		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R813,14		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	2	
R819,20		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	2	
R821		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R822		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R823		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R824,25		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	2	
R826		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R827,28		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	2	
R829		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R830		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R832		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R833		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R834		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R835		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R836		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R837		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R838		ERJ6GEYF271	M.RESISTOR CH 1/10W 270	1	
R839		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R840		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R841		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R843		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R845		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R846		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R847		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R848		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R849		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R850		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R851		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R852		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R853		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R855		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R856		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
			VARIABLE RESISTORS		
VR301		EVMEASA00B13	V.RESISTOR	1	
VR302		EVMEASA00B14	V.RESISTOR	1	
VR303,04		EVMEASA00B53	V.RESISTOR	2	
VR305,06		EVMEASA00B14	V.RESISTOR	2	
VR801		EVMEASA00B14	V.RESISTOR	1	
VR802,03		EVMEASA00B13	V.RESISTOR	2	
			CRYSTAL OSCILLATORS		
X801		VSX0162	CRYSTAL OSCILLATOR	1	
	■	VEP03A01EPE	LUMINANCE & CHROMINANCE		(RTL)NV-SD40B
			PACK C.B.A.		SUPPLIED FROM M.B.V.
			CAPACITORS		
C301		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C302		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C303,04		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C305,06		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	2	
C307		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C308		ECUX1H560JCV	C.CAPACITOR 50V 56P	1	
C309		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C310		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C311		ECUX1H080DCV	C.CAPACITOR CH 50V 8P	1	
C312		ECUX1H270JCV	C.CAPACITOR 50V 27P	1	
C313		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C314		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C315		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C316		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C317		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C318		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C319		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C320		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C321		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C322		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C323		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C325		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C326		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C327		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C328		ECUX1H821JCV	C.CAPACITOR 50V 820P	1	
C329		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C330		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C331		ECUX1H330JCV	C.CAPACITOR 50V 33P	1	
C332		ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C333		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C334		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C336		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C337		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C338,39		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C340		ECUX1H223ZFV	C.CAPACITOR 50V 0.022U	1	
C341		ECUX1H470JCV	C.CAPACITOR 50V 47P	1	
C342		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C381		ECUX1H104ZFV	C.CAPACITOR 50V 0.1U	1	
C801-05		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	5	
C806		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C808		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C811		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C813		ECUX1H181JCV	C.CAPACITOR 50V 180P	1	
C814		ECUX1H270JCV	C.CAPACITOR 50V 27P	1	
C815		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C820		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C821,22		ECUX1H560JCV	C.CAPACITOR 50V 56P	2	
C823,24		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C825		ECUX1H470JCV	C.CAPACITOR 50V 47P	1	
C826-31		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	6	
C832		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C833		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C834		ECUX1H470JCV	C.CAPACITOR 50V 47P	1	
C835		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C836		ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C837		ECQB1H332JH	P.CAPACITOR 50V 3300P	1	
C838		ECUX1H331JCV	C.CAPACITOR 50V 330P	1	
C839		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C840		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C841		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C842		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C843		ECUX1H223ZFV	C.CAPACITOR 50V 0.022U	1	
C844		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C845		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C846		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C847		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C848		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C849		ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C850		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C851		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C852		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
C853		ECUX1H180JCV	C.CAPACITOR 50V 18P	1	
C854		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C855		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C856		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C857		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C858		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C859		ECEA1HKAR33	E.CAPACITOR 50V 0.33U	1	
C860		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C861		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C862		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C863		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C864		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C865,66		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
			DIODES		
D301		MA141K	DIODE	1	
D303,04		MA141K	DIODE	2	
D307		1SS283	DIODE	1	
D310		MA141K	DIODE	1	
D381		MA165	DIODE	1	
D802		MA141K	DIODE	1	
			DELAYS		
DL801		EFDUN124A13N	DELAY	1	
DL802		EFDWLA13A	DELAY	1	
			INTEGRATED CIRCUITS		
IC301		MSM7403MS	IC	1	
IC302		TDA9715	IC	1	SUPPLIED FROM M.B.V.
IC801		M52352FP	IC	1	
			COILS		
L301		VLQEL05S330K	COIL 33UH	1	
L302,03		VLQEL05S390K	COIL 39UH	2	
L304		ELESE101KA	COIL 100UH	1	
L306		VLQEL05S820J	COIL 82UH	1	
L307		ELESE101KA	COIL 100UH	1	
L308		VLQEL05S390K	COIL 39UH	1	
L802		VLQEL05S101K	COIL 100UH	1	
L803		ELESE270KA	COIL 27UH	1	
L805,06		VLQEL05S150K	COIL 15UH	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L807		VLQEL05S101K	COIL 100UH	1	
L808		ELESN6R8JA	COIL 6.8UH	1	
L809-11		ELESE101KA	COIL 100UH	3	
L813		ELESE101KA	COIL 100UH	1	
L814,15		VLQEL05S150K	COIL 15UH	2	
			CONNECTORS		
PS301		VJS3044F009W	CONNECTOR (FEMALE)	1	
PS302		VJS3044F012W	CONNECTOR (FEMALE)	1	
PS303		VJS3044F006W	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q301		2SC3930	TRANSISTOR	1	
Q302		2SB1218A	TRANSISTOR	1	
Q802		2SD1819A	TRANSISTOR	1	
Q804,05		2SC3930	TRANSISTOR	2	
Q806		2SD1819A	TRANSISTOR	1	
Q807		2SB1218A	TRANSISTOR	1	
			COMBINATION PARTS		
QR301,02		UN5212	TRANSISTOR-RESISTOR	2	
QR801		UN5213	TRANSISTOR-RESISTOR	1	
QR804		UN5113	TRANSISTOR	1	
QR806		UN5113	TRANSISTOR	1	
QR807		UN5213	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R301		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R302		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R303,04		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	2	
R305,06		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R307		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R308,09		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R310		ERJ6GEYJ125	M.RESISTOR CH 1/10W 1.2M	1	
R311		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R312		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R314		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R315		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R317		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R319		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R320		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R321		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R322		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R325		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R328		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R329		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R331,32		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R333		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R334,35		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	2	
R337		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R338		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R380		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R382		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R801		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R802		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R803		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R804		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R805		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R809		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R811		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R812		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R813,14		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	2	
R819,20		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	2	
R821		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R822		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R823		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R824,25		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	2	
R826		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R827,28		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	2	
R829		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R830		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R832		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R833		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R834		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R835		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R836		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R837		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R838		ERJ6GEYF271	M.RESISTOR CH 1/10W 270	1	
R839		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R840		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R841		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R843		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R845		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R846		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R847		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R848		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R849		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R850		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R851		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R852		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R853		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R855		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R856		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
			VARIABLE RESISTORS		
VR301		EVMEASA00B13	V.RESISTOR	1	
VR302		EVMEASA00B14	V.RESISTOR	1	
VR303,04		EVMEASA00B53	V.RESISTOR	2	
VR305,06		EVMEASA00B14	V.RESISTOR	2	
VR801		EVMEASA00B14	V.RESISTOR	1	
VR802,03		EVMEASA00B13	V.RESISTOR	2	
			CRYSTAL OSCILLATORS		
X801		VSX0162	CRYSTAL OSCILLATOR	1	
	■	VEP07538G	VPS C.B.A.		(RTL)
					NV-SD30EG,SD40EG
			CAPACITORS		
C7801		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C7802		ECQB1H471JZ	P.CAPACITOR 50V 470P	1	
C7803		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C7804		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7805		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C7806		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C7815		VCYE1C104MR1	S.CAPACITOR 16V 0.1U	1	
C7816		ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C7851		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7852		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C7853,54		ECCF1H330JC	C.CAPACITOR 50V 33P	2	
C7855,56		ECEA1HK010	E.CAPACITOR 50V 1U	2	
			DIODES		
D7851		1SS254	DIODE	1	
			INTEGRATED CIRCUITS		
IC7801		SAA4700	IC	1	
IC7851		MN158413VSSY	IC	1	
			CONNECTORS		
PS1		VJS3043B010W	CONNECTOR (FEMALE)	1	
			COMBINATION PARTS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR7851		UN6211	TRANSISTOR-RESISTOR	1	
QR7852		UN6213	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R7801		ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R7802		EROS2CKG7502	M.RESISTOR 1/4W 75K	1	
R7803,04		ERDS2TJ103	C.RESISTOR 1/4W 10K	2	
R7805		ERDS2TJ473	C.RESISTOR 1/4W 47K	1	
R7806		EROS2CKG8201	M.RESISTOR 1/4W 8.2K	1	
R7851		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7852		ERDS2TJ332	C.RESISTOR 1/4W 3.3K	1	
			CRYSTAL OSCILLATORS		
X7851		EFOA4ROM03C2	CRYSTAL OSCILLATOR	1	
	■	VEP07726A	TV DEMODULATOR PACK C.B.A.		(RTL)
					NV-SD30EG,SD40EG
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C701		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C702		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C703		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C707		ECEA1HK0R1	E.CAPACITOR 50V 0.1U	1	
C708		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C710		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C717-20		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C721		ECEA1HKR27K	E.CAPACITOR 50V 0.27U	1	
C722		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C725		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C727		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C728		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C730		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C731		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C732		ECQV1H224B0	P.CAPACITOR 50V 0.22U	1	
C734		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C735		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C736		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C737		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C739		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C740		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C741		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C742		ECUM1H030CCN	C.CAPACITOR CH 50V 3P	1	
C743		ECUM1H270RCN	C.CAPACITOR CH 50V 27P	1	
C744		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C745		ECUM1H680JPN	C.CAPACITOR CH 50V 68P	1	
C746		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C748		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C749		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C760		ECQV1H473JZ	P.CAPACITOR 50V 0.047U	1	
C782		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C790		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C797,98		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7651		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7653		ECQB1H332JH	P.CAPACITOR 50V 0.27U	1	
C7668		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7685		ECEA1HK010	E.CAPACITOR 50V 1U	1	
			DIODES		
D710		MA3100L	DIODE	1	
D771		MA151WK	DIODE	1	
D772		MA165VT	DIODE	1	
D7672,73		MA3150-H	DIODE	2	
			INTEGRATED CIRCUITS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC701		M51366SP-G	IC	1	SUPPLIED FROM M.B.V.
			COILS		
L701		ELESQ680KA	COIL 68UH	1	
L711		ELQTR22XB	COIL 0.22UH	1	
L714		VLQ0305J1R2	COIL 1.2UH	1	
L716		ELESQ560KA	COIL 56UH	1	
L717,18		ELESQ680KA	COIL 68UH	2	
L719		ELESQ120KA	COIL 12UH	1	
			CONNECTORS		
PS701-03		VJS3043B005W	CONNECTOR (FEMALE) 5P	3	
PS704		VJS3043B006W	CONNECTOR (FEMALE) 6P	1	
			TRANSISTORS		
Q703		MSD601-S	TRANSISTOR	1	
Q712		2SC1317	TRANSISTOR	1	
Q713		MSD1328-S	TRANSISTOR	1	
Q771		MSD601-S	TRANSISTOR	1	
			COMBINATION PARTS		
QR701,02		MRN1404	TRANSISTOR-RESISTOR	2	
QR711,12		MRN1403	TRANSISTOR-RESISTOR	2	
QR714		MRN1402	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R716		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R717		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R718		ERJ6GEYJ754	M.RESISTOR CH 1/10W 750K	1	
R719,20		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	2	
R721		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R722		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R723		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R724		ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R725		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R726		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R727		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R728		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R729,30		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	2	
R737		ERJ6GEYJ274	M.RESISTOR CH 1/10W 270K	1	
R738		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R739		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R740		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R741		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R743		ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	1	
R744		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R745		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R746		ERDS2TJ181	C.RESISTOR 1/4W 180	1	
R747		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R750		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R757		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R759		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R763		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R764		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R772		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R773		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R774		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R792		ERDS2TJ120	C.RESISTOR 1/4W 12	1	
R795		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7656		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R7676		ERG1SJ152	M.RESISTOR 1W 1.5K	1	
			TRANSFORMERS		
T703		EIV5EC013A	TRANSFORMER	1	
T704		EIV5EC006A1	TRANSFORMER	1	
T711		EIS5EC004A	TRANSFORMER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			VARIABLE RESISTORS		
VR701,02		EVTEASA00B23	V.RESISTOR	2	
VR751		EVNCBAA00B53	V.RESISTOR	1	
			CRYSTAL OSCILLATORS		
X710		VLF1035	CRYSTAL OSCILLATOR	1	
X711		VLF0638	CRYSTAL OSCILLATOR	1	
X712		VLF0637	FILTER	1	
X716		EFCV4045A4	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		ENV57851H6	TUNER	1	<!>
		VSC3242	SHIELD COVER (MAIN)	1	
		VSC3241	SHIELD COVER (TOP)	1	
		VSC2714	SHIELD COVER (BOTTOM)	1	
	■	VEP07645S	TV DEMODULATOR PACK C.B.A.		(RTL)NV-SD30B,SD40B
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C701		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C702		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C703		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C706		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C708		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C710		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C717-20		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C721		ECEA1HKR27K	E.CAPACITOR 50V 0.27U	1	
C722		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C725		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C728		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C730		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C731		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C732		ECQV1H224B0	P.CAPACITOR 50V 0.22U	1	
C734		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C735		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C736		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C737		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C739		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C740		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C741		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C742		ECUM1H030CCN	C.CAPACITOR CH 50V 3P	1	
C743		ECUM1H270JSN	C.CAPACITOR CH 50V 27P	1	
C744		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C745		ECUM1H680JPN	C.CAPACITOR CH 50V 68P	1	
C746		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C748		ECEA1CK330	E.CAPACITOR 16V 33U	1	
C749		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C760		ECQV1H563JZ	P.CAPACITOR 50V 0.056U	1	
C782		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7651		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7653		ECQB1H392JH	P.CAPACITOR 50V 3900P	1	
C7654		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C7655,56		ECEA1HK010	E.CAPACITOR 50V 1U	2	
C7657		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7658		ECQP1H562JZ	P.CAPACITOR 50V 5600P	1	
C7659		ECQB1H272JH	P.CAPACITOR 50V 2700P	1	
C7661		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7662		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C7663		ECQV1H823JZ	P.CAPACITOR 50V 0.082U	1	
C7664		ECQB1H273JH	P.CAPACITOR 50V 0.027U	1	
C7665,66		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7667		ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7675		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C7676,77		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7678		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C7679		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C7680		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C7681,82		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
			DIODES		
D710		MA3100L	DIODE	1	
D771		MA151WK	DIODE	1	
D772		1SS254	DIODE	1	
D773		MA151K	DIODE	1	
D7601		MA151A	DIODE	1	
D7602		MA3082M	DIODE	1	
			INTEGRATED CIRCUITS		
IC701		M51366SP	IC	1	
IC7651		AN5421	IC	1	
IC7652		AN5043	IC	1	
IC7653		BU4066BF	IC	1	
			COILS		
L701		ELESQ680KA	COIL 68UH	1	
L713,14		VLQ0305J1R2	COIL 1.2UH	2	
L717,18		ELESQ680KA	COIL 68UH	2	
L719		VLQEL05F8R2K	COIL 8.2UH	1	
L720		ELESQ680KA	COIL 68UH	1	
			CONNECTORS		
PS701-03		VJS3043B005W	CONNECTOR (FEMALE) 5P	3	
PS704		VJS3043B006W	CONNECTOR (FEMALE) 6P	1	
			TRANSISTORS		
Q703		MSD601-S	TRANSISTOR	1	
Q712		2SC1317	TRANSISTOR	1	
Q713		2SD1328-S	TRANSISTOR	1	
Q771,72		MSD601-S	TRANSISTOR	2	
			COMBINATION PARTS		
QR701,02		MRN1404	TRANSISTOR-RESISTOR	2	
QR713		MRN1402	TRANSISTOR-RESISTOR	1	
QR7601		MRN1404	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R716		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R717		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R718		ERJ6GEYJ754	M.RESISTOR CH 1/10W 750K	1	
R719		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R720		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R721		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R723		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R724		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R725		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R726		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R727		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R728		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R729,30		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	2	
R737		ERJ6GEYJ274	M.RESISTOR CH 1/10W 270K	1	
R738		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R739		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R740		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R743		ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	1	
R744		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R745		ERJ6GEYJ181	M.RESISTOR CH 1/10W 180	1	
R746		ERDS2TJ181	C.RESISTOR 1/4W 180	1	
R747		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R750		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R751		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R756		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R757,58		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R763		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R764		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R772		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R773		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R774		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R792		ERDS2TJ120	C.RESISTOR 1/4W 12	1	
R795		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7651		ERDS2TJ332	C.RESISTOR 1/4W 3.3K	1	
R7654		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R7655		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R7656		ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	1	
R7657		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7658		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R7659		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R7661		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R7662		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R7663		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7664		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7671,72		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R7673		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7674		ERJ6GEYJ124	M.RESISTOR CH 1/10W 120K	1	
R7675		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7676		ERG1SJ152	M.RESISTOR 1W 1.5K	1	
R7677		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7678		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R7679		ERDS2TJ100	C.RESISTOR 1/4W 10	1	
R7680		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7681,82		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R7683		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R7684		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R7691		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7692		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7694		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7695		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R7696		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
			TRANSFORMERS		
T703		EIV5EC005A	TRANSFORMER	1	
T704		EIV5EC007A	TRANSFORMER	1	
T711		EIS5EC008A	TRANSFORMER	1	
			VARIABLE RESISTORS		
VR701		EVNCBAA00B23	V.RESISTOR	1	
VR751		EVNCBAA00B53	V.RESISTOR	1	
VR7660		EVM4LGA00B23	V.RESISTOR 2K	1	
			CRYSTAL OSCILLATORS		
X710		EFCH39MGP1	CRYSTAL OSCILLATOR	1	
X711		EFCS6M65MW3B	CRYSTAL OSCILLATOR	1	
X712		EFCS6R0MS5	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		ENV87837H3R	TUNER	1	<!>
		VSC3242	SHIELD COVER (MAIN)	1	
		VSC3241	SHIELD COVER (TOP)	1	
	■	VEP05182APE	HEAD AMP C.B.A.		(RTL)NV-SD30EG/B
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C503		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C505		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C508		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C509		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C510		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C511		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C512		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C513		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C514		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C516		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C517		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C518		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C519		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C520		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C528		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C529		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C530		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C533		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C534,35		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	2	
C536,37		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C540		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C541		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C542,43		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	2	
			DIODES		
D501,02		1SS254	DIODE	2	
D504		1SS254	DIODE	1	
			INTEGRATED CIRCUITS		
IC501		TEA5705	IC	1	SUPPLIED FROM M.B.V.
			COILS		
L501		ELESE820KA	COIL 82UH	1	
L506		ELESE151K	COIL 150UH	1	
L508		ELESE101KA	COIL 100UH	1	
L509		ELESE270KA	COIL 27UH	1	
L510		ELESE101KA	COIL 100UH	1	
			CONNECTORS		
P501		VJS1680	CONNECTOR (FEMALE)	1	
PS002		VJS3069T	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q502		2SB709	TRANSISTOR CHIP	1	
Q503		2SC2295	TRANSISTOR	1	
Q504		2SB709	TRANSISTOR CHIP	1	
			RESISTORS		
R505		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R507		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R509		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R510		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R512		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R513		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R514,15		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	2	
R516		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R517		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R518		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R519		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R520		ERJ6GEYJ180	M.RESISTOR CH 1/10W 18	1	
R521		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R523,24		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	2	
R525		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R526		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R527		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R528		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R529		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R530,31		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R533		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R534		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R535		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R536		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R537		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R541		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
			VARIABLE RESISTORS		
VR501		EVNDCAA03B23	V.RESISTOR	1	
VR502		EVNDCAA03B13	V.RESISTOR	1	
			MISCELLANEOUS		
		VSC3768	SHIELD COVER (TOP)	1	
		VSC3769	SHIELD COVER (MAIN)	1	
		VSC3770	SHIELD COVER (BOTTOM)	1	
	■	VEP05182BPE	HEAD AMP C.B.A.		(RTL)NV-SD40EG/B
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C503		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C505		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C508		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C509		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C510		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C511		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C512		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C513		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C514		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C515,16		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C517		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C518		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C519		ECUM1C1052FM	C.CAPACITOR CH 16V 1U	1	
C520,21		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C528		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C529		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C530		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C533		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C534,35		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	2	
C536,37		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C540		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	1	
C541		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C542,43		ECUM1H223ZFN	C.CAPACITOR 50V 0.022U	2	
			DIODES		
D501-04		1SS254	DIODE	4	
			INTEGRATED CIRCUITS		
IC501		TEA5705	IC	1	SUPPLIED FROM M.B.V.
			COILS		
L501		ELESE820KA	COIL 82UH	1	
L506		ELESE151K	COIL 150UH	1	
L508		ELESE101KA	COIL 100UH	1	
L509		ELESE270KA	COIL 27UH	1	
L510		ELESE101KA	COIL 100UH	1	
			CONNECTORS		
P501		VJS1684	CONNECTOR (FEMALE)	1	
PS002		VJS3069T	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q502		2SB709	TRANSISTOR CHIP	1	
Q503		2SC2295	TRANSISTOR	1	
Q504		2SB709	TRANSISTOR CHIP	1	
			COMBINATION PARTS		
QR502		UN2212	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R505		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R507		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R509		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R510		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R512		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R513		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R514,15		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	2	
R516		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R517		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R518		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R519		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R520		ERJ6GEYJ180	M.RESISTOR CH 1/10W 18	1	
R521		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R522		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R523,24		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	2	
R525		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R526		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R527		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R528		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R529		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R530,31		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R533		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R534		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R535		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R536		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R537		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R539,40		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	2	
R541		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
			VARIABLE RESISTORS		
VR501		EVNDCAA03B23	V.RESISTOR	1	
VR502		EVNDCAA03B13	V.RESISTOR	1	
			MISCELLANEOUS		
		VSC3768	SHIELD COVER (TOP)	1	
		VSC3769	SHIELD COVER (MAIN)	1	
		VSC3770	SHIELD COVER (BOTTOM)	1	
	■	VEP07701D	TIMER C.B.A.		(RTL)NV-SD30EG
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C7501		ECRHA030E41	TRIMMER 3P	1	
C7502		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7503		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7504		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C7505		ECEA1HKS100	E.CAPACITOR 50V 10U	1	
C7506		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C7507		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7509,10		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7511		ECEA1HKSR22	E.CAPACITOR 50V 0.22U	1	
C7512		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C7513		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7514		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C7515		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			DIODES		
D7501		MA3160	DIODE	1	
D7504-06		MA221	DIODE	3	
D7508		MA221	DIODE	1	
D7510		MA221	DIODE	1	
D7512		MA221	DIODE	1	
D7520		MA221	DIODE	1	
D7522,23		MA221	DIODE	2	
D7525		MA221	DIODE	1	
D7527		MA221	DIODE	1	
D7530		MA221	DIODE	1	
D7535		MA221	DIODE	1	
D7537		MA221	DIODE	1	
D7541,42		MA221	DIODE	2	
D7546-49		LN376GCPXU	DIODE	4	
D7550		SEL2913KTP3	DIODE	1	
D7552,53		SEL2913KTP3	DIODE	2	
D7554-57		MA221	DIODE	4	
			DISPLAY TUBES		
DP7501		VSL0271	DISPLAY TUBE	1	
			INTEGRATED CIRCUITS		
IC7501		MN187164VTSV	IC	1	
IC7502		PST7026	IC	1	
IC7503		PST7043	IC	1	
IC7504		XLJ9021B	IC	1	
IR7501		VEK6407	IR RECEIVER UNIT	1	
			COILS		
L7501		ELESE151K	COIL 150UH	1	
			CONNECTORS		
P7501		VJS3193B013A	CONNECTOR (FEMALE)	1	
P7502		VJS1679	CONNECTOR (FEMALE) 9P	1	
P7505		VJS3301	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q7508		MSD601	TRANSISTOR-RESISTOR	1	
Q7510		MSD601	TRANSISTOR-RESISTOR	1	
			COMBINATION PARTS		
QR7501		MRN1404	TRANSISTOR-RESISTOR	1	
QR7503-06		MRN2404	TRANSISTOR-RESISTOR	4	
			RESISTORS		
R7501		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7502		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7503		ERJ6GEYK2R2	M.RESISTOR CH 1/10W 2.2	1	
R7504		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R7512		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R7513		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R7514		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7515,16		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R7517		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7518-20		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	3	
R7521,22		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	2	
R7531		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7535		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R7536		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7537		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R7538,39		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R7540		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R7541		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R7544,45		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R7548		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R7549		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R7550		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7551-55		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	5	
R7558		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7560		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
			SWITCHES		
SW7501-03		EVQ11409K	SWITCH	3	
SW7506-11		EVQ11409K	SWITCH	6	
SW7513-16		EVQ11409K	SWITCH	4	
SW7522,23		EVQ11409K	SWITCH	2	
			VARIABLE RESISTORS		
VR7501		EVUF3AF15B24	V.RESISTOR	1	
			CRYSTAL OSCILLATORS		
X7501		VSX0484	CRYSTAL OSCILLATOR	1	
X7502		VSX0094	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VGU6099	PICTURE VR KNOB	1	
		VJF0915	FIP HOLDER	1	
		VMD2060	LED HOLDER	1	
		VMD2061	SHUTTLE HOLDER	1	
		VSQ0815	SHUTTLE ENCODER	1	
	■	VEP07701F	TIMER C.B.A.		(RTL)NV-SD30B
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C7501		ECRHA030E41	TRIMMER 3P	1	
C7502		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7503		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7504		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C7505		ECEA1HKS100	E.CAPACITOR 50V 10U	1	
C7506		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C7507		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7509,10		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7511		ECEA1HKSR22	E.CAPACITOR 50V 0.22U	1	
C7512		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C7513		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7514		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C7515		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
			DIODES		
D7501		MA3160	DIODE	1	
D7504,05		MA221	DIODE	2	
D7508		MA221	DIODE	1	
D7511,12		MA221	DIODE	2	
D7520		MA221	DIODE	1	
D7525		MA221	DIODE	1	
D7527		MA221	DIODE	1	
D7534,35		MA221	DIODE	2	
D7537		MA221	DIODE	1	
D7541		MA221	DIODE	1	
D7546-49		LN376GCPXU	DIODE	4	
D7550		SEL2913KTP3	DIODE	1	
D7552,53		SEL2913KTP3	DIODE	2	
D7554-57		MA221	DIODE	4	
D7560		MA221	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			DISPLAY TUBES		
DP7501		VSL0271	DISPLAY TUBE	1	
			INTEGRATED CIRCUITS		
IC7501		MN187164VTSV	IC	1	
IC7502		PST7026	IC	1	
IC7503		PST7043	IC	1	
IC7504		XLJ9021B	IC	1	
IR7501		VEK6407	IR RECEIVER UNIT	1	
			COILS		
L7501		ELESE151K	COIL 150UH	1	
			CONNECTORS		
P7501		VJS3193B013A	CONNECTOR (FEMALE)	1	
P7502		VJS1679	CONNECTOR (FEMALE) 9P	1	
P7505		VJS3301	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q7508		MSD601	TRANSISTOR-RESISTOR	1	
Q7510		MSD601	TRANSISTOR-RESISTOR	1	
			COMBINATION PARTS		
QR7501		MRN1404	TRANSISTOR-RESISTOR	1	
QR7503-06		MRN2404	TRANSISTOR-RESISTOR	4	
			RESISTORS		
R7501		ERJ6GMZOROO	M.RESISTOR CH 1/10W 0	1	
R7502		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7503		ERJ6GEYK2R2	M.RESISTOR CH 1/10W 2.2	1	
R7504		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R7512		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R7513		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R7514		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7515,16		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R7517		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7518,19		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R7521,22		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	2	
R7531		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7535		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R7536		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7537		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R7538,39		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R7540		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R7541		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R7544,45		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R7548		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R7549		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R7550		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7552-55		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	4	
R7558		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7560		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
			SWITCHES		
SW7501-03		EVQ11409K	SWITCH	3	
SW7506-11		EVQ11409K	SWITCH	6	
SW7513,14		EVQ11409K	SWITCH	2	
SW7516		EVQ11409K	SWITCH	1	
SW7522,23		EVQ11409K	SWITCH	2	
			VARIABLE RESISTORS		
VR7501		EVUF3AF15B24	V.RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CRYSTAL OSCILLATORS		
X7501		VSX0484	CRYSTAL OSCILLATOR	1	
X7502		VSX0094	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VGU6099	PICTURE VR KNOB	1	
		VJF0915	FIP HOLDER	1	
		VMD2060	LED HOLDER	1	
		VMD2061	SHUTTLE HOLDER	1	
		VSQ0815	SHUTTLE ENCODER	1	
	■	VEP07699D	TIMER C.B.A.		(RTL)NV-SD40EG
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C4801		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4802		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4804		ECUM1E124ZFN	C.CAPACITOR CH 25V 0.12U	1	
C7501		ECRHA030E41	TRIMMER 3P	1	
C7502		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7503		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7504		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C7505		ECEA1HKS100	E.CAPACITOR 50V 10U	1	
C7506		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C7507		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7509,10		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7511		ECEA1HKSR22	E.CAPACITOR 50V 0.22U	1	
C7512		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C7513		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7514		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C7515		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C7518		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C7519		ECEA1CK101	E.CAPACITOR 16V 100U	1	
			DIODES		
D7501		MA3220	DIODE	1	
D7504-06		MA221	DIODE	3	
D7508		MA221	DIODE	1	
D7510		MA221	DIODE	1	
D7512		MA221	DIODE	1	
D7516,17		MA221	DIODE	2	
D7520		MA221	DIODE	1	
D7522,23		MA221	DIODE	2	
D7525-27		MA221	DIODE	3	
D7530		MA221	DIODE	1	
D7535		MA221	DIODE	1	
D7537		MA221	DIODE	1	
D7541,42		MA221	DIODE	2	
D7546-49		LN376GCPXU	DIODE	4	
D7550-53		SEL2913KTP3	DIODE	4	
D7554-57		MA221	DIODE	4	
			DISPLAY TUBES		
DP7501		VSL0271	DISPLAY TUBE	1	
			INTEGRATED CIRCUITS		
IC7501		MN187164VTSV	IC	1	
IC7502		PST7026	IC	1	
IC7503		PST7043	IC	1	
IC7504		XLJ9021B	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IR7501		VEK6407	IR RECEIVER UNIT	1	
			JACKS		
J4801		VJJ0281	MIC JACK	1	
			COILS		
L7501		ELESE151K	COIL 150UH	1	
			CONNECTORS		
P7501		VJS3193B013A	CONNECTOR (FEMALE)	1	
P7502		VJS3193B015A	CONNECTOR (FEMALE) 15P	1	
P7505		VJS3301	CONNECTOR (FEMALE)	1	
PP7501		VJP3042A004W	CONNECTOR (MALE)	1	
PP7502		VJS3404A005A	CONNECTOR (FEMALE)	1	
PS4801		VJS3042B004W	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q4801		2SA1034	TRANSISTOR	1	
Q4802		2SC2405	TRANSISTOR	1	
Q7508		MSD601	TRANSISTOR-RESISTOR	1	
Q7510		MSD601	TRANSISTOR-RESISTOR	1	
			COMBINATION PARTS		
QR7501		MRN1404	TRANSISTOR-RESISTOR	1	
QR7503-06		MRN2404	TRANSISTOR-RESISTOR	4	
			RESISTORS		
R4801		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4802		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R4803		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4804		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R4805		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R4806		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4807		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4808		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R7501		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7502		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7503		ERJ6GEYK2R2	M.RESISTOR CH 1/10W 2.2	1	
R7504		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R7512		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R7513		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R7514		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7515,16		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R7517		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7518-20		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	3	
R7521,22		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	2	
R7531		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7535		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R7536		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7537		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R7538,39		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R7540,41		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	2	
R7544,45		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R7548		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R7549		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R7550		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7551-55		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	5	
R7558		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7560		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7562		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
			SWITCHES		
SW7501-11		EVQ11409K	SWITCH	11	
SW7513-16		EVQ11409K	SWITCH	4	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			VARIABLE RESISTORS		
VR7501		EVUF3AF15B24	V.RESISTOR	1	
			CRYSTAL OSCILLATORS		
X7501		VSX0484	CRYSTAL OSCILLATOR	1	
X7502		VSX0094	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VGU6099	PICTURE VR KNOB	1	
		VJF0915	FIP HOLDER	1	
		VMD2060	LED HOLDER	1	
		VMD2035	JOG SHUTTLE HOLDER	1	
		VSQ0811	JOG SHUTTLE ENCODER	1	
	■	VEP07699F	TIMER C.B.A.		(RTL)NV-SD40B
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C4801		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4802		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4804		ECUM1E124ZFN	C.CAPACITOR CH 25V 0.12U	1	
C7501		ECRHA030E41	TRIMMER 3P	1	
C7502		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7503		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7504		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C7505		ECEA1HKS100	E.CAPACITOR 50V 10U	1	
C7506		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C7507		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7509,10		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7511		ECEA1HKSR22	E.CAPACITOR 50V 0.22U	1	
C7512		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C7513		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7514		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C7515		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C7518		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C7519		ECEA1CK101	E.CAPACITOR 16V 100U	1	
			DIODES		
D7501		MA3220	DIODE	1	
D7504,05		MA221	DIODE	2	
D7508		MA221	DIODE	1	
D7511,12		MA221	DIODE	2	
D7516,17		MA221	DIODE	2	
D7520		MA221	DIODE	1	
D7525-27		MA221	DIODE	3	
D7534,35		MA221	DIODE	2	
D7537		MA221	DIODE	1	
D7541		MA221	DIODE	1	
D7546-49		LN376GCPXU	DIODE	4	
D7550-53		SEL2913KTP3	DIODE	4	
D7554-57		MA221	DIODE	4	
D7560		MA221	DIODE	1	
			DISPLAY TUBES		
DP7501		VSL0271	DISPLAY TUBE	1	
			INTEGRATED CIRCUITS		
IC7501		MN187164VTSV	IC	1	
IC7502		PST7026	IC	1	
IC7503		PST7043	IC	1	
IC7504		XLJ9021B	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IR7501		VEK6407	IR RECEIVER UNIT	1	
			JACKS		
J4801		VJJ0281	MIC JACK	1	
			COILS		
L7501		ELESE151K	COIL 150UH	1	
			CONNECTORS		
P7501		VJS3193B013A	CONNECTOR (FEMALE)	1	
P7502		VJS3193B015A	CONNECTOR (FEMALE) 15P	1	
P7505		VJS3301	CONNECTOR (FEMALE)	1	
PP7501		VJP3042A004W	CONNECTOR (MALE)	1	
PP7502		VJS3404A005A	CONNECTOR (FEMALE)	1	
PS4801		VJS3042B004W	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q4801		2SA1034	TRANSISTOR	1	
Q4802		2SC2405	TRANSISTOR	1	
Q7508		MSD601	TRANSISTOR-RESISTOR	1	
Q7510		MSD601	TRANSISTOR-RESISTOR	1	
			COMBINATION PARTS		
QR7501		MRN1404	TRANSISTOR-RESISTOR	1	
QR7503-06		MRN2404	TRANSISTOR-RESISTOR	4	
			RESISTORS		
R4801		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4802		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R4803		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4804		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R4805		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R4806		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4807		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4808		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R7501		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7502		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7503		ERJ6GEYK2R2	M.RESISTOR CH 1/10W 2.2	1	
R7504		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R7512		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R7513		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R7514		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7515,16		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R7517		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7518,19		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R7521,22		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	2	
R7531		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7535		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R7536		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7537		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R7538,39		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R7540,41		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	2	
R7544,45		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R7548		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R7549		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R7550		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7552-55		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	4	
R7558		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7560		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7562		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			SWITCHES		
SW7501-11		EVQ11409K	SWITCH	11	
SW7513,14		EVQ11409K	SWITCH	2	
SW7516		EVQ11409K	SWITCH	1	
SW7517		VSS0303	SWITCH	1	
			VARIABLE RESISTORS		
VR7501		EVUF3AF15B24	V.RESISTOR	1	
			CRYSTAL OSCILLATORS		
X7501		VSX0484	CRYSTAL OSCILLATOR	1	
X7502		VSX0094	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VGU6099	PICTURE VR KNOB	1	
		VJF0915	FIP HOLDER	1	
		VMD2060	LED HOLDER	1	
		VMD2035	JOG SHUTTLE HOLDER	1	
		VSQ0811	JOG SHUTTLE ENCODER	1	
	■	VEP07716A	OPERATION C.B.A.		(RTL)NV-SD40EG/B
			CONNECTORS		
PP6601		VJP3404A005W	CONNECTOR (MALE)	1	
			SWITCHES		
SW6601,02		EVQ11409K	SWITCH	2	
	■	VEP01518G	POWER C.B.A.		(RTL)<!>
					NV-SD30EG,SD40EG
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C1101		VCC0021	C.CAPACITOR	1	<!>
C1106		VCC0021	C.CAPACITOR	1	<!>
C1107		ECQU2A154MNB	P.CAPACITOR 250V 0.15U	1	<!>
C1108		ECQU2A104MN	P.CAPACITOR 250V 0.01U	1	<!>
C1109		ECEC2GG330	CAPACITOR	1	
C1110		ECQV1H124JZ	P.CAPACITOR 50V 0.12U	1	
C1111		ECQB1H153JF	P.CAPACITOR 50V 0.015U	1	
C1114		VCC0022	C.CAPACITOR 1000P	1	<!>
C1115		ECQE6473KF	P.CAPACITOR 50V	1	
C1116		VCK0106K221	CAPACITOR	1	
C1117		ECQB1H123JF	P.CAPACITOR 50V 0.012U	1	
C1118		ECEA1JFE470	E.CAPACITOR 63V 47U	1	
C1119		ECCD2H101J	C.CAPACITOR 500V 100P	1	
C1120,21		ECEA1DFZ681	E.CAPACITOR 20V 680U	2	
C1122		ECEA1VFE820	E.CAPACITOR 35V 82U	1	
C1123		ECEA1DFZ331	E.CAPACITOR 20V 330U	1	
C1124,25		ECEA1AFZ331X	E.CAPACITOR 10V 330U	2	
C1126		ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C1127		ECKF1H102ZF	C.CAPACITOR 50V 1000P	1	
C1128		ECA1CGE101X	E.CAPACITOR 16V 100U	1	
C1129		ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C1130		ECA1CGE101X	E.CAPACITOR 16V 100U	1	
C1131		ECCD2H101J	C.CAPACITOR 500V 100P	1	
C1133		ECKF1H102ZF	C.CAPACITOR 50V 1000P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			DIODES		
D1101		S1WBA60S	DIODE	1	<!>
D1102		1SS254	DIODE	1	
D1103		VSD0002	DIODE	1	<!>
D1104		AP01C	DIODE	1	
D1105		1SS254	DIODE	1	
D1106,07		MA178	DIODE	2	
D1108		MA4024-H	DIODE	1	
D1109		AU01Z	DIODE	1	
D1110		RL2Z	DIODE	1	
D1111		MA185	DIODE	1	
D1112,13		11EQS04	DIODE	2	
D1114,15		MA178	DIODE	2	
D1117		MA2200B	DIODE	1	
D1118		1SS254	DIODE	1	
			INTEGRATED CIRCUITS		
IC1101		TL431CLP	IC	1	
			COILS		
L1101		ELF18D221F	COIL 220UH	1	<!>
L1102-05		EXCELSA35	COIL	4	
L1107		ELF18D290A	COIL 29UH	1	<!>
L1108		VLQ0410	COIL	1	
L1109		VLQ0579	COIL	1	
L1110		ELESE101KA	COIL 100UH	1	
			CONNECTORS		
P1101		VJS2625	CONNECTOR (FEMALE)	1	<!>
P1102		VJS3193B013A	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q1101		2SC4300	TRANSISTOR	1	<!>
Q1102		2SD2259	TRANSISTOR	1	
Q1103		PS2561L1V1WL	TRANSISTOR-PHOTO COUPLER	1	<!>
Q1105		2SD1991	TRANSISTOR	1	
Q1106		2SD2375	TRANSISTOR	1	
Q1108		2SD2259	TRANSISTOR	1	
Q1109		2SD1996	TRANSISTOR	1	
			RESISTORS		
R1101		ERC12AGM334	S.RESISTOR 1/2W 330K	1	<!>
R1102		ERDS1TJ154	C.RESISTOR 1/2W 150K	1	
R1103		ERG2SJ680	M.RESISTOR 2W 68	1	
R1104		ERX1SJ1R2	M.RESISTOR 1W 1.2	1	
R1105		ERDS2FJ102	C.RESISTOR 1/4W 1K	1	
R1106		ERF2TK2R2	W.RESISTOR 2.2	1	
R1107		ERG3SJ683	M.RESISTOR 3W 68K	1	
R1108		ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R1109		ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R1110		ERDS2TJ272	C.RESISTOR 1/4W 2.7K	1	
R1111,12		EROS2CKG2701	M.RESISTOR 1/4W 2.7K	2	
R1113		EROS2CKG2702	M.RESISTOR 1/4W 27K	1	
R1114		ERDS1TJ472	C.RESISTOR 1/2W 4.7K	1	
R1115		ERDS2FJ820	C.RESISTOR 1/4W 82	1	
R1118		EROS2CKG2701	M.RESISTOR 1/4W 2.7K	1	
R1119		EROS2CKG2401	M.RESISTOR 1/4W 2.4K	1	
R1120		ERDS2FJ102	C.RESISTOR 1/4W 1K	1	
R1121		ERDS1TJ154	C.RESISTOR 1/2W 150K	1	
R1122,23		ERDS2FJ474	C.RESISTOR 1/4W 470K	2	
R1124		ERDS2FJ103	C.RESISTOR 1/4W 10K	1	
R1125		ERDS2FJ104	C.RESISTOR 1/4W 100K	1	
			TRANSFORMERS		
T1101		VLT0699	TRANSFORMER	1	<!>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			MISCELLANEOUS		
		VJF0318	FUSE HOLDER	2	<!>
		VMZ1184	CAPACITOR COVER (B)	3	<!>
	■	VEP01518H	POWER C.B.A.		(RTL)<!>
					NV-SD30B,SD40B
					SUPPLIED FROM M.B.V.
			CAPACITORS		
C1101		VCC0019	C.CAPACITOR 330P	1	<!>
C1106		VCC0019	C.CAPACITOR 330P	1	<!>
C1107		ECQU2A563MNB	P.CAPACITOR 250V 0.056U	1	<!>
C1108		ECQU2A333MNB	P.CAPACITOR 250V 0.033U	1	<!>
C1109		ECEC2GG330	CAPACITOR	1	
C1110		ECQV1H124JZ	P.CAPACITOR 50V 0.12U	1	
C1111		ECQB1H153JF	P.CAPACITOR 50V 0.015U	1	
C1114		VCC0022	C.CAPACITOR 1000P	1	<!>
C1115		ECQE6473KF	P.CAPACITOR 50V	1	
C1116		VCK0106K221	CAPACITOR	1	
C1117		ECQB1H123JF	P.CAPACITOR 50V 0.012U	1	
C1118		ECEA1JFE470	E.CAPACITOR 63V 47U	1	
C1119		ECCD2H101J	C.CAPACITOR 500V 100P	1	
C1120,21		ECEA1DFZ681	E.CAPACITOR 20V 680U	2	
C1122		ECEA1VFE820	E.CAPACITOR 35V 82U	1	
C1123		ECEA1DFZ331	E.CAPACITOR 20V 330U	1	
C1124,25		ECEA1AFZ331X	E.CAPACITOR 10V 330U	2	
C1126		ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C1127		ECKF1H102ZF	C.CAPACITOR 50V 1000P	1	
C1128		ECA1CGE101X	E.CAPACITOR 16V 100U	1	
C1129		ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C1130		ECA1CGE101X	E.CAPACITOR 16V 100U	1	
C1131		ECCD2H101J	C.CAPACITOR 500V 100P	1	
C1133		ECKF1H102ZF	C.CAPACITOR 50V 1000P	1	
C1134-39		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	6	
			DIODES		
D1101		S1WBA60S	DIODE	1	<!>
D1102		1SS254	DIODE	1	
D1103		VSD0002	DIODE	1	<!>
D1104		AP01C	DIODE	1	
D1105		1SS254	DIODE	1	
D1106,07		MA178	DIODE	2	
D1108		MA4024-H	DIODE	1	
D1109		AU01Z	DIODE	1	
D1110		RL2Z	DIODE	1	
D1111		MA185	DIODE	1	
D1112,13		11EQS04	DIODE	2	
D1114,15		MA178	DIODE	2	
D1117		MA2200B	DIODE	1	
D1118		1SS254	DIODE	1	
			INTEGRATED CIRCUITS		
IC1101		TL431CLP	IC	1	
			COILS		
L1101		ELF18D290A	COIL 29UH	1	<!>
L1107		ELF18D290A	COIL 29UH	1	<!>
L1108		VLQ0410	COIL	1	
L1109		VLQ0579	COIL	1	
L1110		ELESE101KA	COIL 100UH	1	
			CONNECTORS		
P1101		VJS2625	CONNECTOR (FEMALE)	1	<!>
P1102		VJS3193B013A	CONNECTOR (FEMALE)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			TRANSISTORS		
Q1101		2SC4300	TRANSISTOR	1	<!>
Q1102		2SD2259	TRANSISTOR	1	
Q1103		PS2561L1-1	TRANSISTOR-PHOTO COUPLER	1	<!>
Q1105		2SD1991	TRANSISTOR	1	
Q1106		2SD2375	TRANSISTOR	1	
Q1108		2SD2259	TRANSISTOR	1	
Q1109		2SD1996	TRANSISTOR	1	
			RESISTORS		
R1102		ERDS1TJ154	C.RESISTOR 1/2W 150K	1	
R1103		ERG2SJ680	M.RESISTOR 2W 68	1	
R1104		ERX1SJ1R2	M.RESISTOR 1W 1.2	1	
R1105		ERDS2FJ102	C.RESISTOR 1/4W 1K	1	
R1106		ERF2TK2R2	W.RESISTOR 2.2	1	
R1107		ERG3SJ683	M.RESISTOR 3W 68K	1	
R1108		ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R1109		ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R1110		ERDS2TJ272	C.RESISTOR 1/4W 2.7K	1	
R1111,12		EROS2CKG2701	M.RESISTOR 1/4W 2.7K	2	
R1113		EROS2CKG2702	M.RESISTOR 1/4W 27K	1	
R1114		ERDS1TJ472	C.RESISTOR 1/2W 4.7K	1	
R1115		ERDS2FJ820	C.RESISTOR 1/4W 82	1	
R1118		EROS2CKG2701	M.RESISTOR 1/4W 2.7K	1	
R1119		EROS2CKG2401	M.RESISTOR 1/4W 2.4K	1	
R1120		ERDS2FJ102	C.RESISTOR 1/4W 1K	1	
R1121		ERDS1TJ154	C.RESISTOR 1/2W 150K	1	
R1122,23		ERDS2FJ474	C.RESISTOR 1/4W 470K	2	
R1124		ERDS2FJ103	C.RESISTOR 1/4W 10K	1	
R1125		ERDS2FJ104	C.RESISTOR 1/4W 100K	1	
			TRANSFORMERS		
T1101		VLT0699	TRANSFORMER	1	<!>
			MISCELLANEOUS		
		VJF0318	FUSE HOLDER	2	<!>
		VMZ1184	CAPACITOR COVER (B)	3	<!>
	■	---------	MECHANISM CONNECTION C.B.A.		(RTL)
			DIODES		
D1501		LN59L.VT	DIODE	1	
			INTEGRATED CIRCUITS		
IC1501,02		ON1387	IC	2	
			CONNECTORS		
P1503		VJS3316A002	CONNECTOR (FEMALE)	1	
P1504		VJS3317A004	CONNECTOR (FEMALE)	1	
P1505		VJS3193B013A	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q1501,02		PN205L-NC.VT	TRANSISTOR	2	
			SWITCHES		
SW1501		VES0695	SAFETY SWITCH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			MISCELLANEOUS		
		VMD2029	REEL GUIDE	1	
	■	VEP00S86A	POWER TRANSISTOR C.B.A.		(RTL)
			CONNECTORS		
P1506		VJP1230T	CONNECTOR (MALE) 3P	1	
			TRANSISTORS		
Q1503		2SB941QBB	TRANSISTOR	1	
	■	---------	MOTOR C.B.A.		(RTL)
			MISCELLANEOUS		
		VJP3316B002	CONNECTOR (MALE)	1	

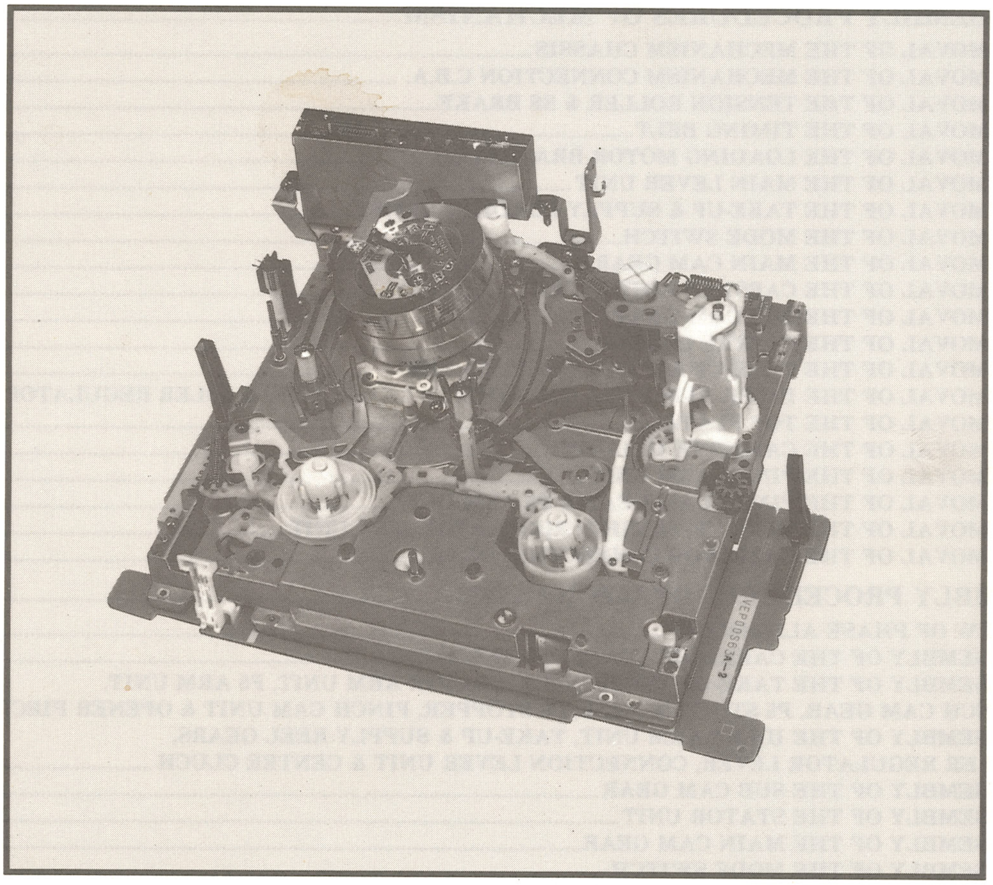
ORDER NO. VRD9307M131

Service Manual

Service Information
Adjustment Procedures
Assembly / Disassembly Procedures
Parts Change (~May '93)
Trouble Shooting

VHS Video Cassette Recorder
Mechanical chassis

No. K



IMPORTANT

The K-Mechanism chassis are built in several Panasonic VHS Video Cassette Recorders From NV-SD, HD series in 1992.
Thus, properly file this service manual with the service manuals of the relative video cassette recorders.

Panasonic

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1. SERVICE INFORMAION

1-1. SERVICE POSITION

When servicing the K-Mechanism, the Mechanism can easily be fixed by standing the Mechanism up in the Main Frame as shown below to check easily.

In this position, the following services are possible.

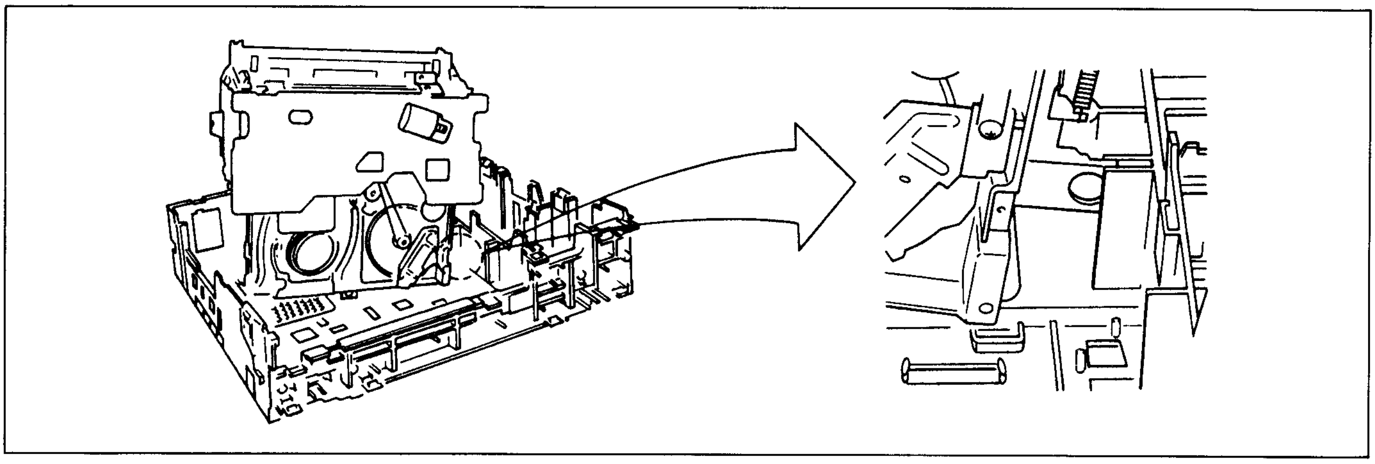


Fig. S1

1-1-1. CHECKING OF GEAR PHASE ALIGNMENT CONDITION

1) Remove the Mechanism Connection C.B.A.
2) Check gear phase Alignment Condition of Mechanism described on the left (NV-SD series) or bottom (NV-HD series) side of Frame.)

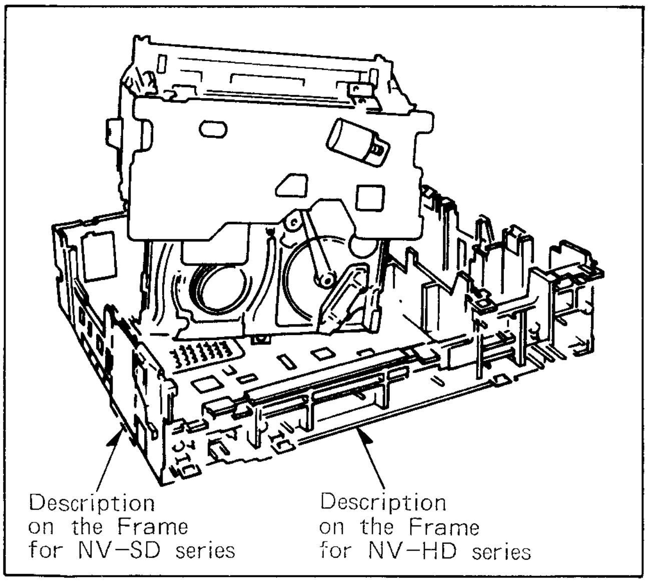

Description on the Frame for NV-SD series
Description on the Frame for NV-HD series

Fig. S2

1-1-2. Checking of Loading / Unloading Operation.

There are 3 methods for manual operation of loading/unloading operation as follows.

1. HAND OPERATION
   1) Remove the Mechanism Connection C.B.A.
   2) Turn the Worm Gear or the WORM WHEEL GEAR (Remove the loading Motor Unit) manually.

2. BATTERY OPERATION
   1) Remove the Mechanism Connection C.B.A.
   2) Connect the Battery (Manganes-Type R6 (AA) 3pcs./+4.5V) or Power Supply (+4.5V) to the Loading Motor terminals.

3. SERVICE INFORMATION DISPLAY OPERATION
   1) Set the Service Information Display mode. (Turn the Shuttle Ring to FF then push the Eject button, or press the FF, REW and Eject buttons simultaneously.)
   2) Make a momentary short circuit as shown in the service manual, or press the TV/VTR button.(The end of display on the Display becomes "--".)

Note:

For NV-HD100AM/MC, NV-F125BD, NV-SD20EE, and NV-SD25AM, make a momentary short circuit between TL7508 and D7517-cathoid For NV-HD100AM/MC and NV-F12513D, or TL7508 and D7527-cathoid for NV-SD20EE and NV-SD25AM.

3) In the above Service Information Display mode, The Loading Motor rotates for loading operation when the "PLAY" button is pressed The Loading Motor rotates for unloading operation when the "STOP" button is pressed.

Remark:

After checking, check the "SERVICE" INFORMATION DISPLAY" mode for final confirmation of movement of Mechanism.

1-1-3. Checking of operation of Reel Gears.

1) Remove the Mechanism Connection C.B.A.
2) Set mechanism to "PLAY" position by manual operation of loading.
3) Turn the "Rotor Unit" to check movement of reel gears.

1-2. REPLACEMENT OF CYLINDER UNIT

The Cylinder Unit can be replaced easily by the following method.

1) Remove the Top Panel.
2) Remove the 3 screws of the Cylinder Unit with a magnetized screw driver through the holes on the Bottom Plate as shown in Fig.S4.

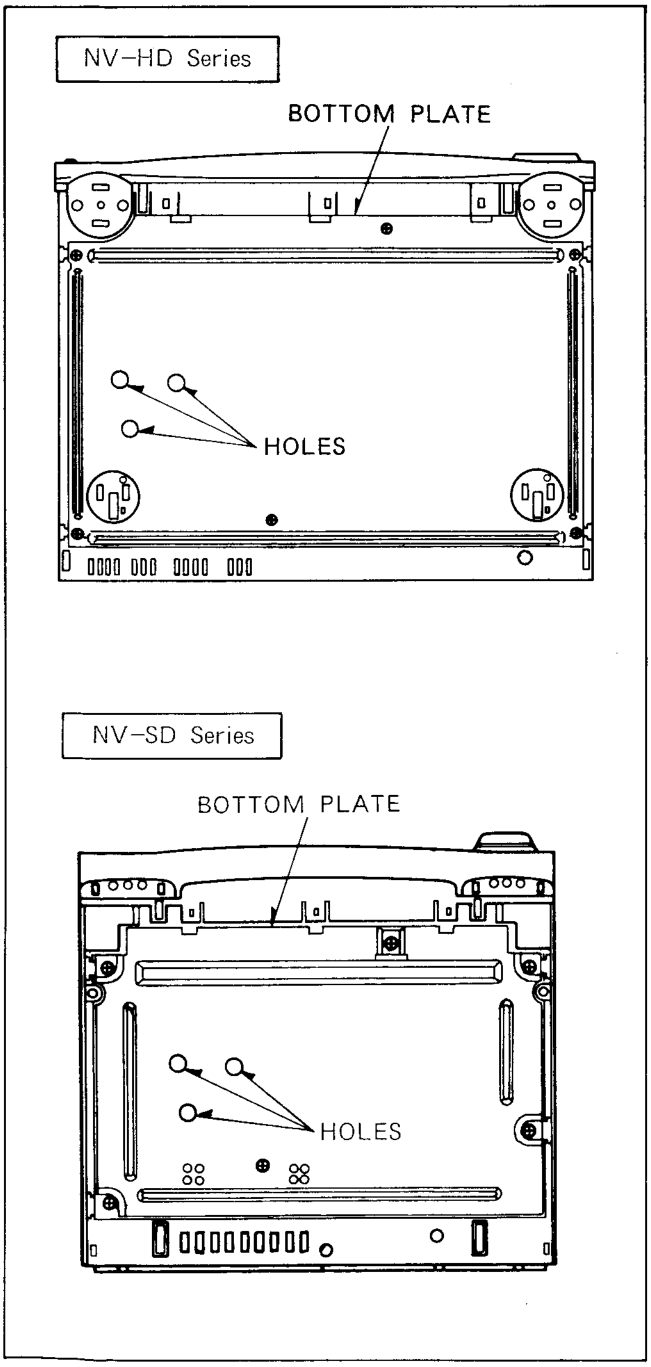

NV-HD Series
BOTTOM PLATE
HOLES
NV-SD Series
BOTTOM PLATE
HOLES

Fig. S4

1-3. ASSEMBLY OF CAPSTAN STATOR UNIT

When replacing the CAPSTAN STATOR UNIT, the CENTRE FIXING TOOL (VFK0851) must be used to fix the centre of CAPSTAN STATOR UNIT.

Method:

1) Place the CAPSTAN STATOR UNIT into position.
2) Loosely tighten the 3 screws.
3) Insert the CENTRE FIXING TOOL (VFK0851) as shown in Fig.S5.
4) Tighten the 3 screws.
5) Remove the CENTRE FIXING TOOL.

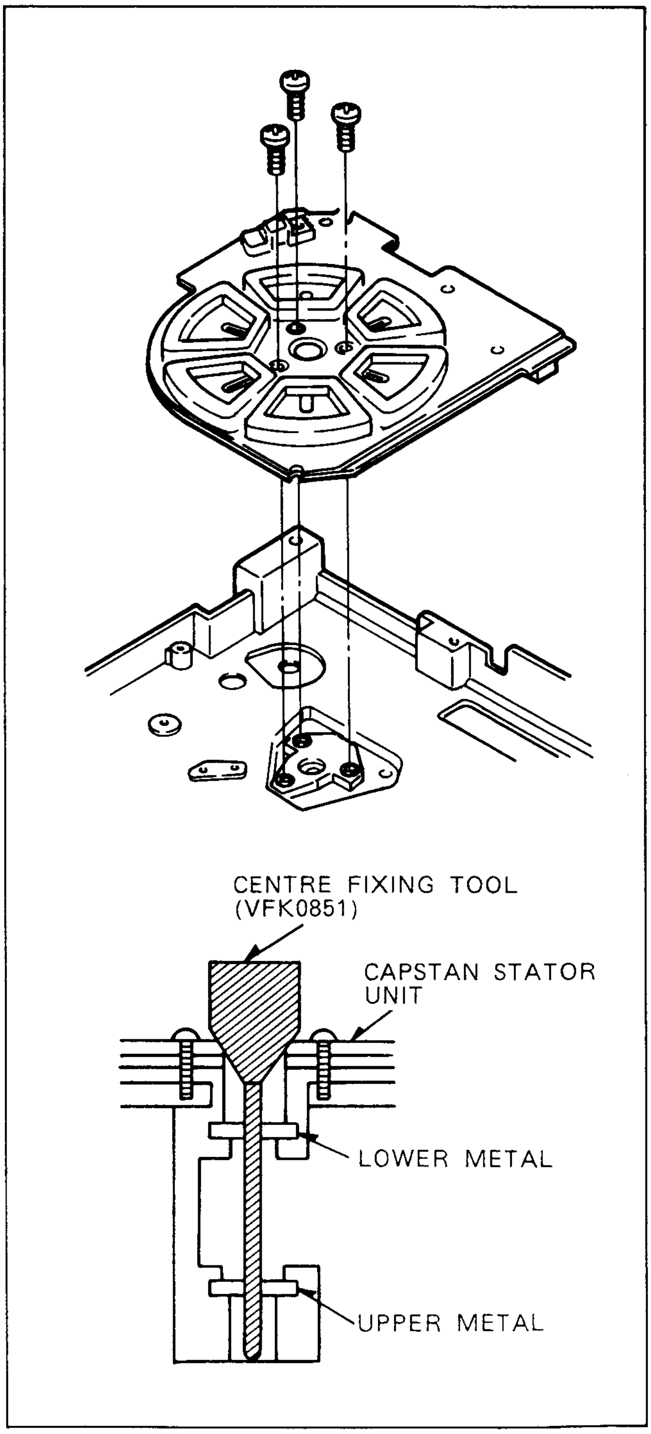

CENTRE FIXING TOOL
(VFK0851)
CAPSTAN STATOR UNIT
LOWER METAL
UPPER METAL

Fig. S5

1-4. EJECT OPERATION

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

<NOTE>
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear and will not rotate.
For performing the Eject operation with the cassette carriage not installed, it is necessary to rotate the carriage connection gear by hand in the direction of the arrow.

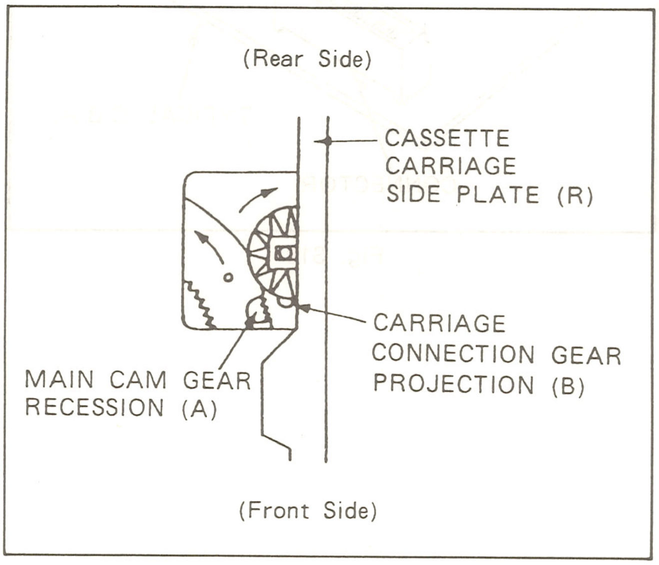

(Rear Side)
CASSETTE CARRIAGE SIDE PLATE (R)
CARRIAGE CONNECTION GEAR PROJECTION (B)
MAIN CAM GEAR RECESSION (A)
(Front Side)

Fig. S6 Top View of Eject Operation

1-5. TAKE-UP PHOTO SENSOR OPERATION

Note the following matters for Take-up Photo Sensor Operation.

1) While servicing of the K-Mechanism, the unit will not operate properly if a strong light (ex, Fluorescent light, Spot light) falls on the Take-up Photo Sensor.
   In this case, cover the Take-up Photo Sensor to prevent the light from falling on it.
2) While servicing of the K-Mechanism with "Power On" and without cassette tape inserted, the Unit does not operate properly.

1-6. SERVICING OF POWER TR C.B.A.

When removing the connector on the Power Tr. C.B.A., hold the P. C. Board by hand to prevent damage of the Power Tr.

1-7. REMOVAL OF THE CASSETTE TAPE

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to remove the cassette manually. There are 2 methods of removing the cassette.

1. HAND OPERATION

1) Remove the bottom plate.
2) Turn the WORM GEAR to "A" arrow mark direction manually as shown in Fig.S7, moving the LOADING POST to the unloaded position.
3) Turn the CAPSTAN clockwise to take up the tape.
4) Turn the WORM GEAR again to eject the **cassette.**

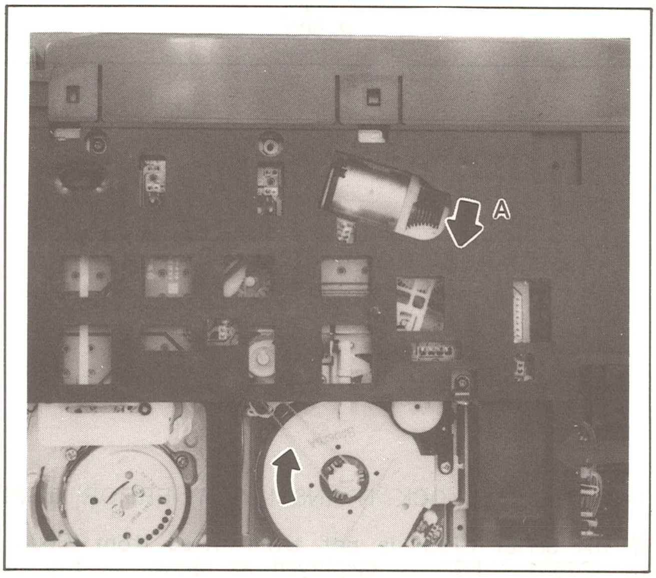


Fig. S7

2. BATTERY OPERATION

1) Connect the battery (Manganes-Type R6 (AA) 3pcs./+4.5V) to P1503 as shown in Fig. S8.
2) After moving the LOADING POST to the unloaded position, disconnect the battery to stop the motor.
3) Turn the CAPSTAN to clockwise to take up the tape.
4) Reconnect the battery to eject the cassette.

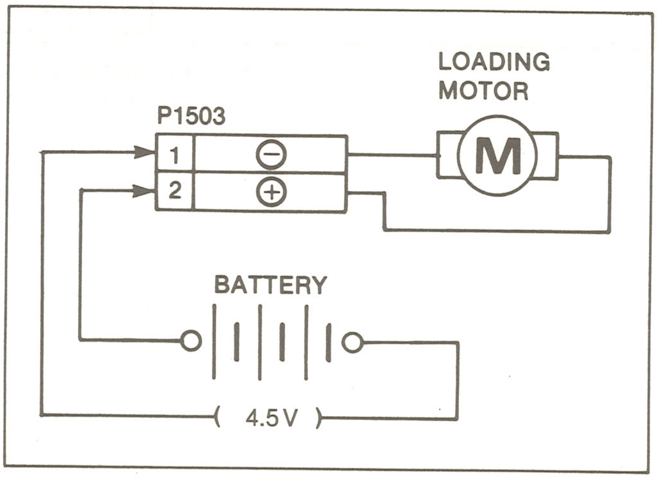


Fig. S8

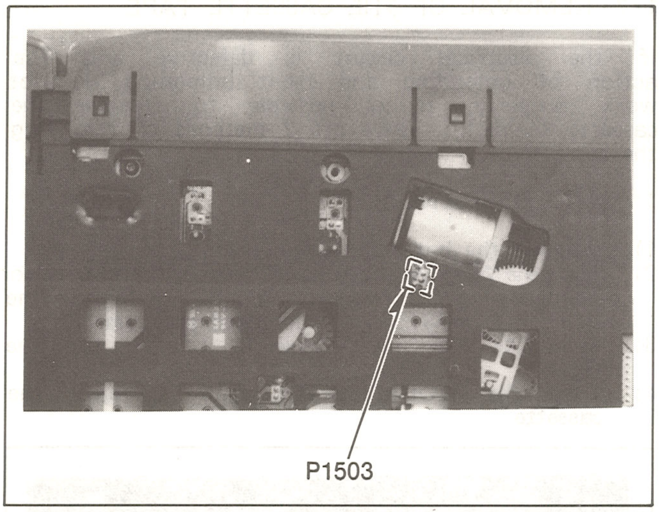


Fig. S9

1–8. INSTALLATION OF FLAT CARD CABLE

When installing of the Flat Card Cable to the connector, make sure the direction of the Flat Card Cable. The Insulation Sheet side is backside.

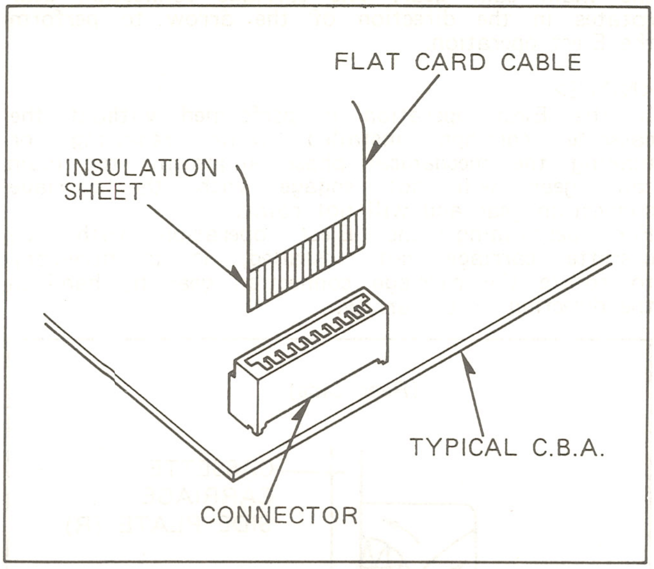

FLAT CARD CABLE
INSULATION SHEET
TYPICAL C.B.A.
CONNECTOR

Fig. S10

1–9. SERIAL CLOCK TRANSMISSION ERROR DISPLAY

If the Serial Clock is not transmitted from IC6001 to IC7501, "E9" is displayed as shown in Fig.T1. This indication will be displayed either during the Service Information Display mode or in normal mode.

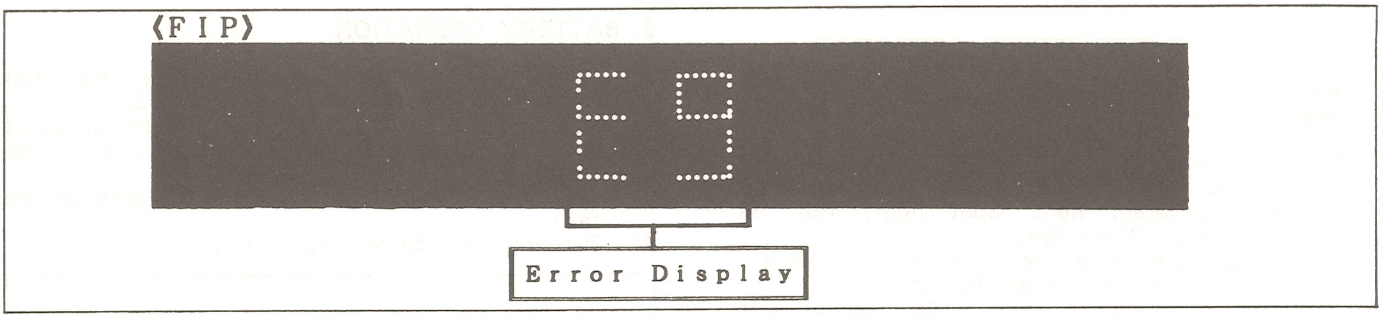

⟨FIP⟩
E9
Error Display

Fig. T1 Serial Data/Clock Transmission Error Display

1-10. SERVICE INFORMATION DISPLAY

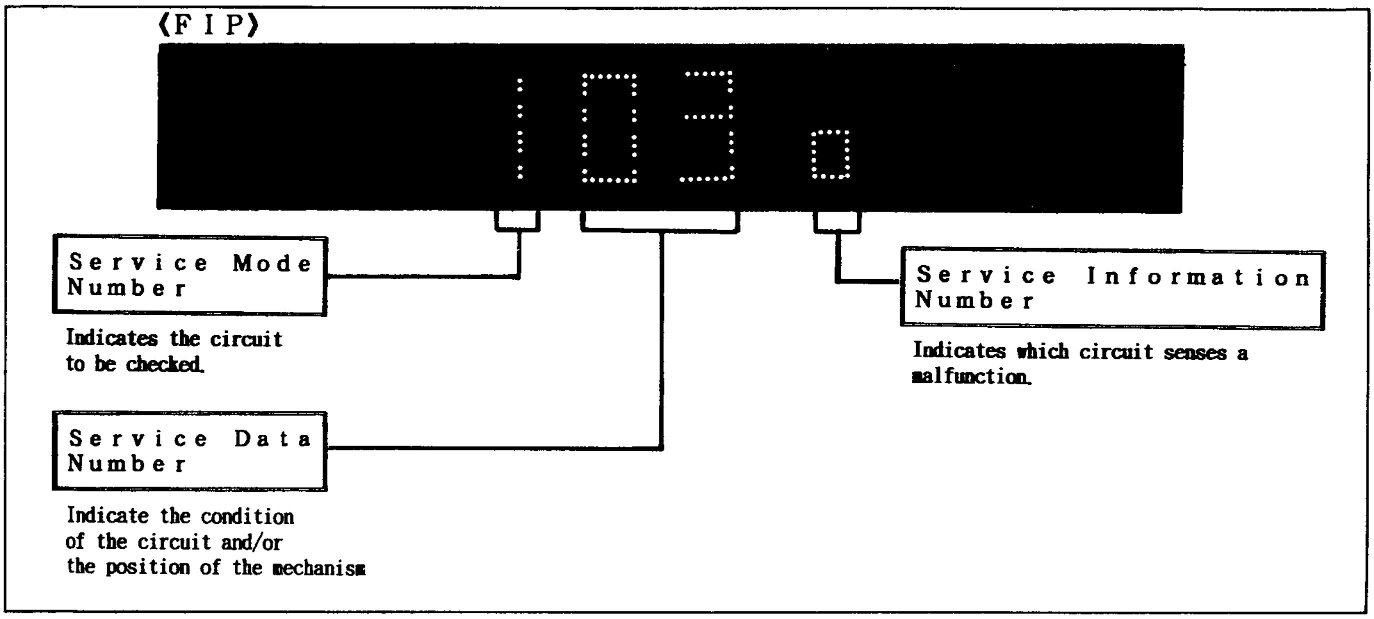

〈F I P〉
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicate the condition of the circuit and/or the position of the mechanism
Service Information Number
Indicates which circuit senses a malfunction.

Fig. D1 Service Information Display

1-10-1. Purpose of Service Information Display

This information aids trouble shooting by indicating the source of the malfunction. The service mode number & service data number are used by the technician during repair while the service information can be used by the consumer to diagnose malfunctions allowing the technician to provide a more accurate repair cost estimate and reduce repair time.

1-10-2. Turning on Service Information Display

There are two ways to turn on the Service Information Display.

(1) Turn the Shuttle Ring to FF then push the Eject button. The Service Information will be displayed for 1 minute.
(2) Connecting a jumper wire between TPSERV and TPGND For NV-SD series (TP6010 and TP6011 for NV-HD series) will display the service information indefinitely.

In the Service Information Display, there are four digits divided into 3 functions.
The first digit indicates which other 7 service modes that the unit is Currently in.

MODE 1 : Check tape protection circuit
MODE 2 : Check tape transport mechanism
MODE 3 : Check mode switching operation
MODE 4 : Check control buttons
MODE 5 : Check capstan motor
MODE 6 : Check cylinder motor
MODE 7 : Check loading/unloading operation

The second and third digits are service data which indicate the condition of the circuit or mechanism being checked.

The forth digit is the service Information display. It is to be used by the consumer to help determine the source of a malfunction. The service information display operates independently of the service modes and stores the fault indication in memory for as long as AC power is supplied.

1-10-3. Use of Service Modes

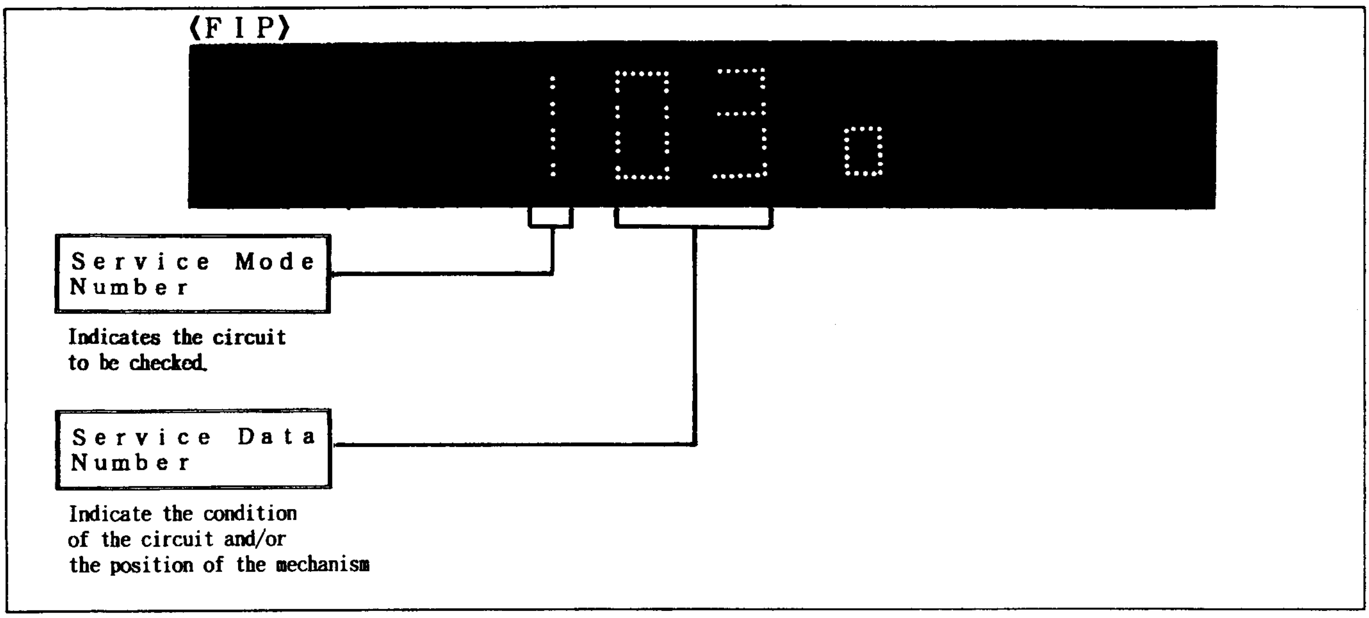
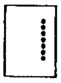

(F I P)
1 03
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicate the condition of the circuit and/or the position of the mechanism

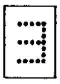
Fig. D2. Service Mode Number and Service Data Number on S.I.D.

(1) Turn on Service Information Display.
(2) To change Service Modes turn the shuttle ring to FF then push the Eject button.
(3) Mode 1 : Checks that the Sensor LED, Supply & Take-up Sensor circuits check the circuits by blocking the light from the Sensor LED to either or both Supply & Take-up Sensors.
When the light is blocked to both sensors, "00" should be indicated on the service data number.
When the light is blocked to the supply sensor, "01" should be indicated.

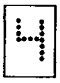


(4) Mode 2 : Checks the mode switch circuit while indicating mechanism position.
Service Data Numbers indicate the position of the mode switch and there by the mechanism position.

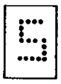
(5) Mode 3 : Checks that mode switch circuit operations have been completed.
Service Data Number should indicate "00" after each mechanism operation is completed.



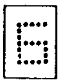
(6) Mode 4 : Checks the operation circuit.
Indicates if IC6001 receives the operating commands from the mode buttons and/or remote controller.



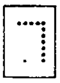
(7) Mode 5 : Checks the capstan motor circuit.
Indicates if the IC6001 has received the command to rotate the capstan motor.



(8) Mode 6 : Checks the cylinder motor circuit.
IC6001 has received the command to rotate the cylinder motor.



(9) Mode 7: Checks the Loading/Unloading Operation.
The Loading Motor rotates for loading operation when the "PLAY" button pressed.
The Loading Motor rotates For operation when the "STOP" button is pressed.
Note: This mode can be used by the System Control Microprocessor IC6001: MN67434VRSG or MN67434VRSH.



<NOTE>
Refer to Fig.D5 for details of Service Data Number.

1-10-4. Service Information Number

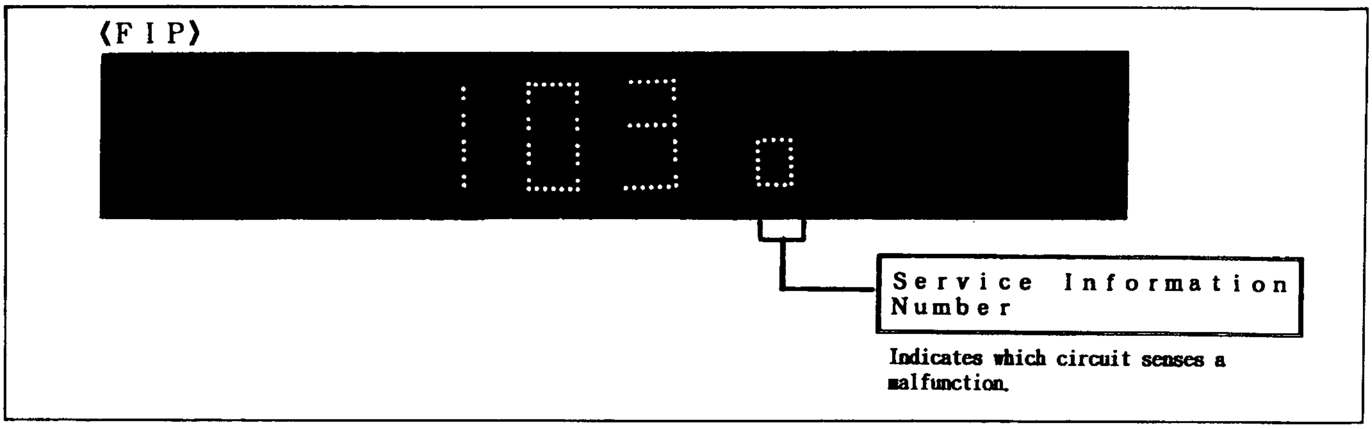

〈F I P〉
103 0
Service Information Number
Indicates which circuit senses a malfunction.

Fig. D3 Service Information Number on S.I.D.

Refer to Fig.D4 for details of Service Information Number.

Note:
The Service Information Number display is independent of the service mode display.
The Service Information Number will be stored as long as AC power is supplied.
If a second error occurs, the most current error will be displayed.

Service Information Number	Malfunction
0	Normal (No problem)
1	Cylinder stop
2	Tape reel stop
3	Stop at position other than 4 or 6
4	Stop during unloading
5	Falty capstan rotation
6	Stop during Cassette-In/Eject operation

Fig. D4 Service Information

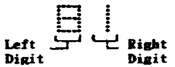
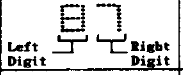
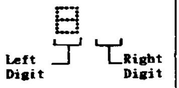
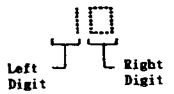
Service mode Number	Note for checking Service Data Numbers	Service Data Numbers	Indication	Remarks
1	—	00	No light detected at either sensor	Tape not required
		01	Tape Begining. Light to Supply Photo Sensor is blocked.	
		02	Tape End. Light to Take-up Photo Sensor is blocked.	
		03	Light detected at both sensors.	
2	—	00	EJECT	Tape Reuired *1 : STOP3 ; The Pinch Roller is on the capstan motor shaft. *2 : STOP ; The Pinch Roller is off the capstan motor shaft. Refer to Fig. D7 to Check mechanism Position and timing.
		01	Cassette-down	
		02	REV, REV SLOW	
		03	Loading/Unloading	
		04	PLAY/REC, STILL/PAUSE, CUE, FWD SLOW, STOP3 *1	
		05	STOP*2	
		06	FF/REW	
		07	Intermediate position	
3	Disregard service data displayed until mechanism operation is completed. Then the display should indicate "00".	00	Any display other than "00" indicates a fault in the mode switch circuit or system.	Tape Required.
4	Display only when the operating button is pressed.	Refer to Fig. D6		Tape not required.
5	Left digit only, disregard Right digit display.		8, 9, u, A, –, n, L, and no display indicate that the Capstan motor "PLAY" command recived by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.
	Right digit only, disregard left digit display.		1, 2, 3, 4, 5, 6, 7, indicate that the Capstan motor CUE, FF, Forward slow" commands received by IC6001.	
	Right digit only, disregard left digit display.		8, 9, u, A, –, n, L, and no display indicate that the Capstan motor Reverse, Rew, Reverse Slow commands received by IC6001.	
6	Left digit only, disregard Right digit display.		1, 3, 5, 7, 9, A, n and no display indicate that the cylinder motor "ON" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.

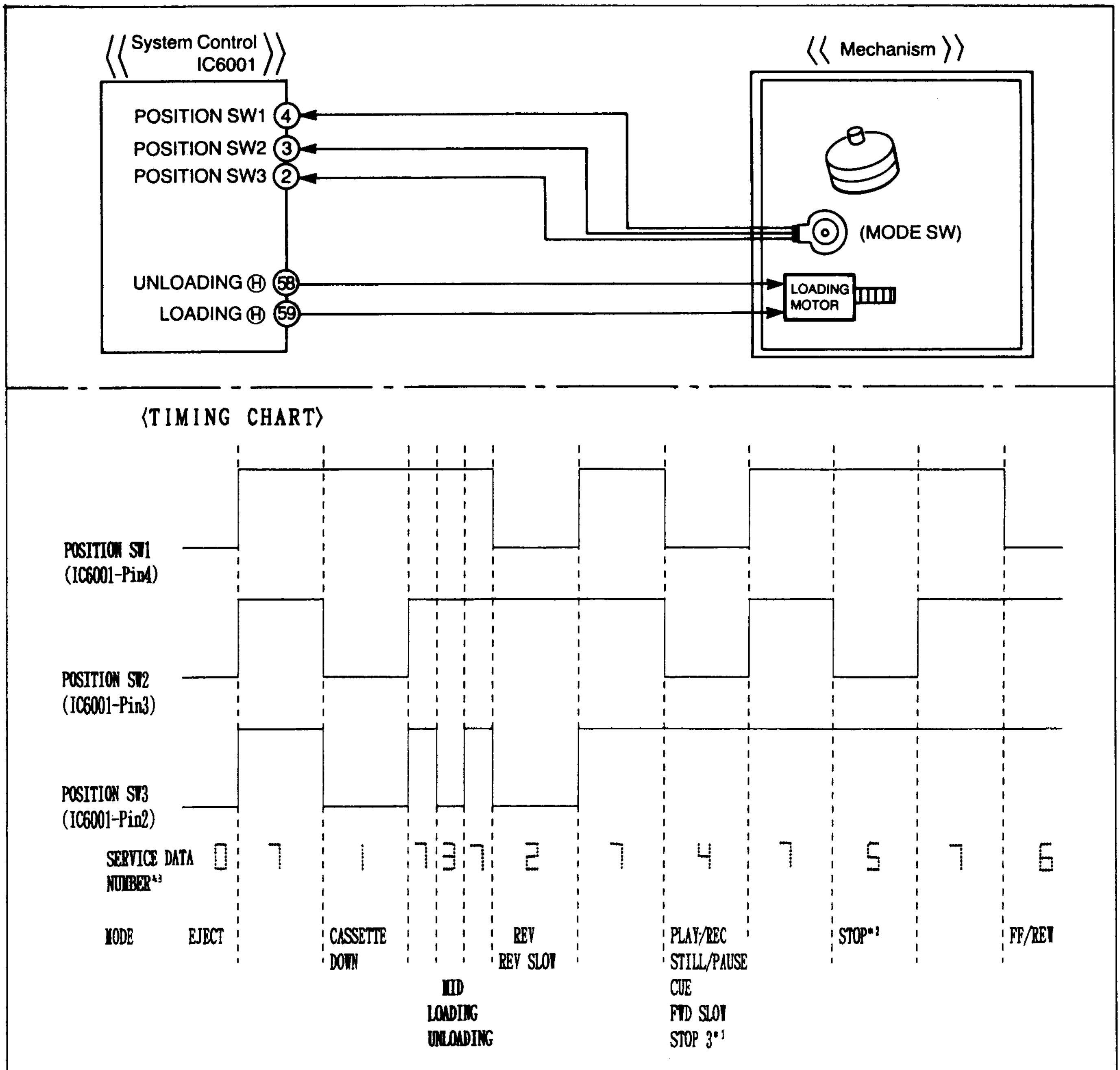
Fig. D5 Service Data Display and Indication

SERVICE DATA NUMBERS	MODE BUTTONS	SERVICE DATA NUMBERS	MODE BUTTONS
3n	OPERATE	54	RESET
0 1	EJECT	5	ZERO STOP
09	AUDIO DUB	-0	INPUT SELECT
A3	INSERT	49.4U	INDEX
-9	PAL/MESECAM	A 1.A2	TRACKING(+,-)/V-LOCK
—	CHECK/PROG.	9	REPEAT
34 OR 35	∧∨, +−	8	SKIP
—	NEXT/SP/LP	—	TAPE SELECT
—	SLEEP/SHIFT	—	PROG.
A4	TIMER REC	—	NEXT
08	REC	—	RECORDING SP/LP
—	CLOCK SET	—	CANCEL
—	TUNER PRESET	10	SU(1)
80	PAUSE/STILL	11	MO(2)
0U	PLAY	12	TU(3)
00	STOP	13	WE(4)
0-.0n	JOG DIAL (FRAME ADV, REVERSE ADV)	14	TH(5)
03.02	SHUTTLE RING (FF,REW)	15	FR(6)
—	TV/VTR	16	SA(7)
—	SCANNER ON/OFF	17	SU~SA(8)
—	TRANSMIT	18	MO~SA(9)
0	SEARCH	19	MO~FR(0)
8L	+ (REMOTE CONTROLLER)	3A	-/--
8	- (REMOTE CONTROLLER)		
—	DISPLAY		

Fig. D6 Service Data Display for Service mode 4

1-10-5. Timing Chart from Mode SW to System control IC6001

System control IC6001 senses the mechanism position though the Mode SW.
Fig.D7 shows the timing for Service Mode Number 2.


《System Control IC6001》
POSITION SW1 ④
POSITION SW2 ③
POSITION SW3 ②
UNLOADING Ⓗ (58)
LOADING Ⓗ (59)
《Mechanism》
(MODE SW)
LOADING MOTOR
〈TIMING CHART〉
POSITION SW1 (IC6001-Pin4)
POSITION SW2 (IC6001-Pin3)
POSITION SW3 (IC6001-Pin2)
SERVICE DATA NUMBER*3
0
7
1
7
3
7
2
7
4
7
5
7
6
MODE
EJECT
CASSETTE DOWN
MID LOADING UNLOADING
REV REV SLOW
PLAY/REC STILL/PAUSE CUE FWD SLOW STOP 3*1
STOP*2
FF/REW

*1 :Stop 3;The Pinch Roller is on the capstan motor shaft.

*2 :Stop ;The Pinch Roller is off the capstan motor shaft.

*3 :Service Data Number;This is for Service Mode Number2.

Fig. D7 Timing Chart of Mode SW

2. MECHANICAL ADJUSTMENT PROCEDURES

2-1. TENSION POST POSITION ADJUSTMENT

(Equipment Required)
Hex Wrench (VFK0326)

1. Disconnect the AC plug.
2. Remove the TOP PLATE and CASSETTE HOLDER.
3. Turn the LOADING MOTOR until the loading completes.
4. Adjust the hole of TENSION BAND FASTENER by hex wrench so that the left edge of IMPEDANCE ROLLER and TENSION ARM UNIT as shown in Fig.M1.

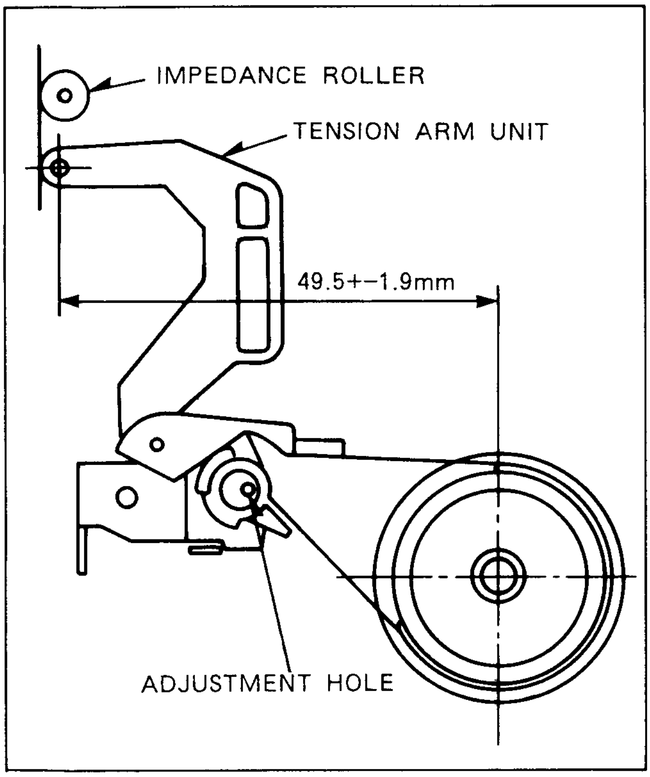


Fig. M1

2-2. BACK TENSION ADJUSTMENT

(Equipment Required)
Back Tension Meter (VFK0132)
VHS Cassette Tape (180 minutes tape:PAL)
(120 minutes tape:NTSC)

(Specification)
22.5-27.5g

1. Playback the cassette tape from the beginning and wait until the tape movement get the stabilization.
(for approx. 10~20 seconds)
2. Insert the Back tension Meter into the path of a tape, and measure the back tension to be within specification as shown in Fig.M2.

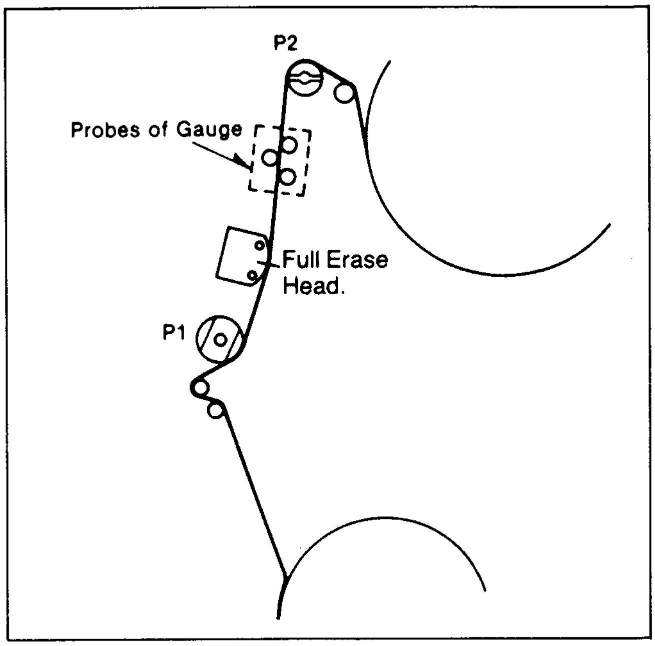


Fig. M2

3. If it is out of specification, change the spring notch as shown in Fig.M3.

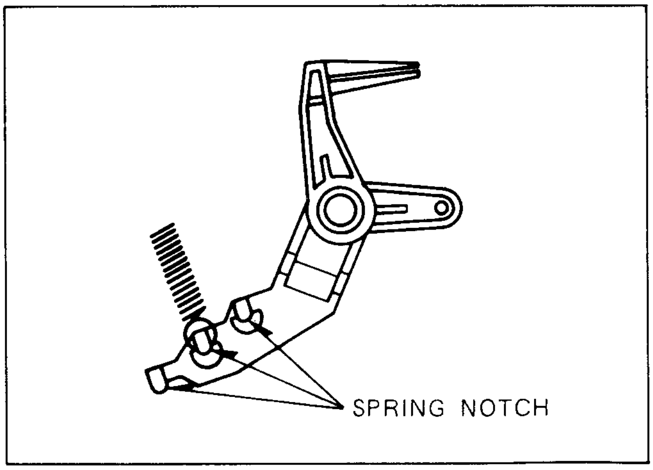


Fig. M3

2-3. P2 AND P3 POSTS ADJUSTMENT (PREADJUSTMENT)

(Equipment Required)
Post Adjustment Screwdriver (VFK0329)

1. Remove the TOP PLATE and CASSETTE HOLDER.
2. Turn the LOADING MOTOR until the unloading completes.
3. Loosen the fixing screw of P2 and P3 POSTS.
4. Rotate the P2 and P3 POSTS clockwise to the end.
5. Rotate the P2 and P3 POSTS twice counterclockwise.

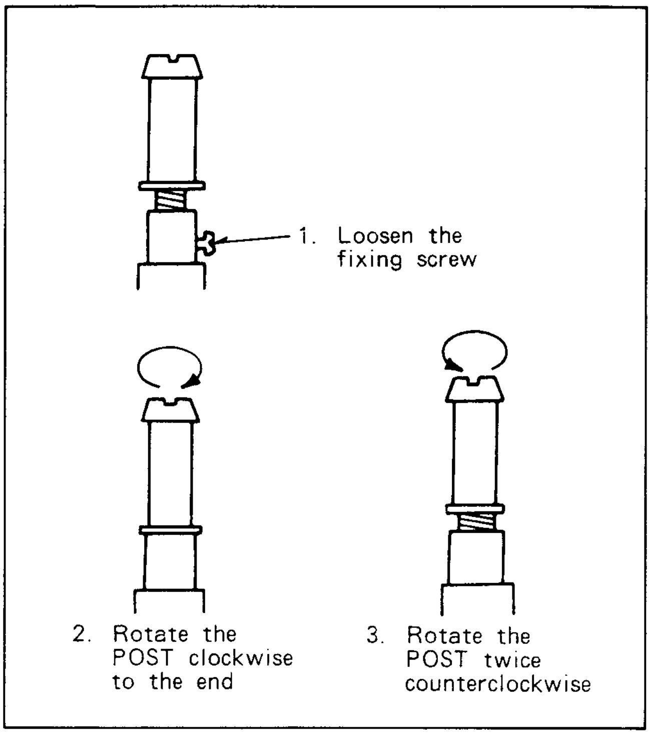

1. Loosen the fixing screw
2. Rotate the POST clockwise to the end
3. Rotate the POST twice counterclockwise

Fig. M4

6. Install the TOP PLATE and CASSETTE HOLDER
7. Playback the cassette tape and make sure that the edges of the tape are not curling at the bottom or top end of the P1, P2, P3 and P4 POSTS as shown in Fig.M5.

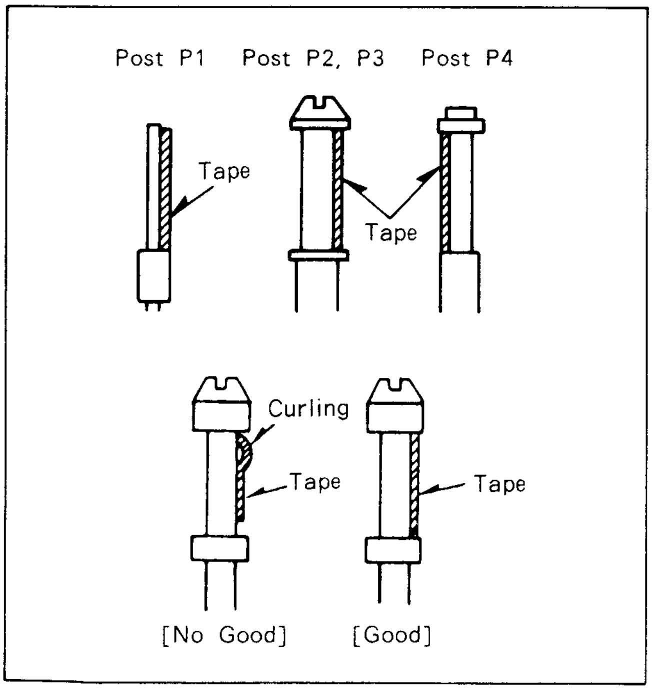

Post P1
Post P2, P3
Post P4
Tape
Tape
Curling
Tape
Tape
[No Good]
[Good]

Fig. M5

8. If curling appears, readjusts the P2 and P3 POSTS.

2-4. TAPE INTERCHANGEABILITY ADJUSTMENT

Carry out the following procedures for Tape interchangeability Adjustment to do it correctly and smoothly.

(1) Adjustment of P2 and P3 Posts.
(2) Height Adjustment of A/C Head (1).
(3) Height Adjustment of A/C Head (2).
(4) Fine-Adjustment of A/C Head
(5) Horizontal Position Adjustment of A/C Head.

If the Tape Interchangeability Adjustment is not perfect, repeat the above procedures from (1) to (5).

CAUTIONS:

To mark a Adjustment Mode for Tape Interchangeability, connect a Cut Jumper Wire as shown in Fig.M6.
(Auto Tracking is turned off.)
After finishing the adjustment, disconnect the Cut Jumper Wire.

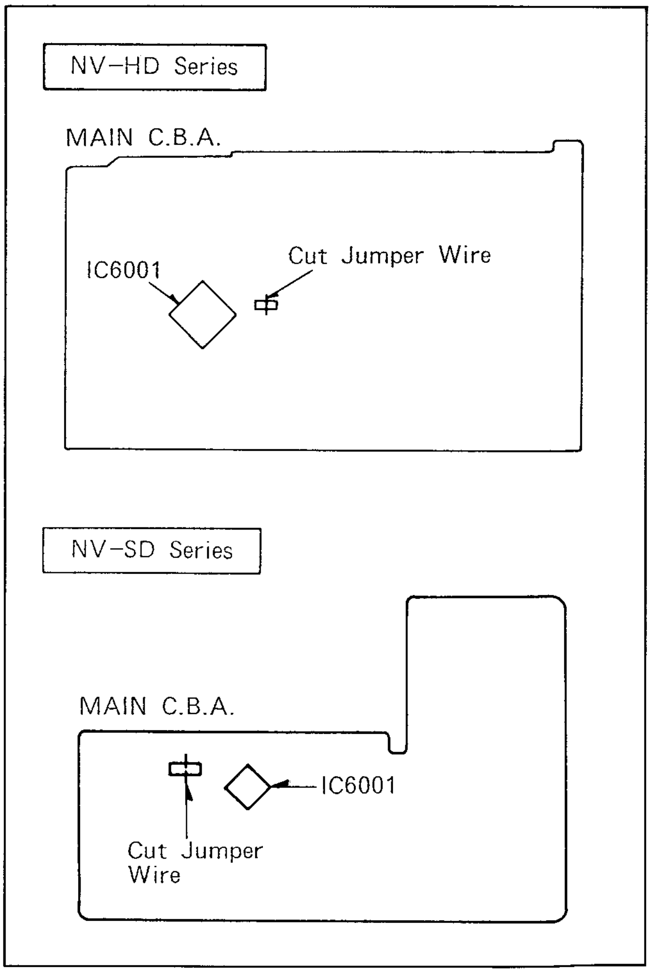

NV-HD Series
MAIN C.B.A.
IC6001
Cut Jumper Wire
NV-SD Series
MAIN C.B.A.
IC6001
Cut Jumper Wire

Fig. M6

(1) Adjustment of P2 and P3 Posts

(Equipment Required)
Alignment Tape(PAL/SECAM: VFJ8125H3F,
NTSC: VFM8080HQFP)
Post Adjustment Screwdriver (VFK0329)

1. Set the tracking control into the fix position. (by pressing the tracking (+) and (−) button simultaneously on the Remote Controller)
   And connect the oscilloscope to the output of the Head Amp as shown in Fig.M7.

Note:
To get a stable waveform of the Head Amp output on the oscilloscope, use the head switching pulse as a triggering signal as shown in Fig.M7.

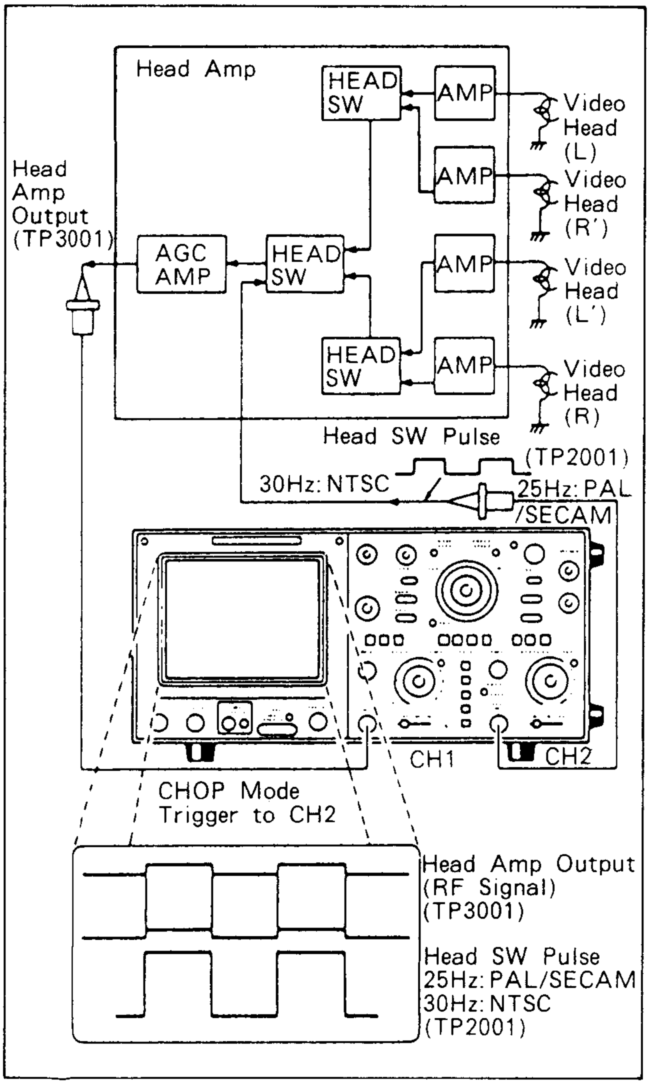

Head Amp
HEAD SW
AMP
Video Head (L)
AMP
Video Head (R')
Head Amp Output (TP3001)
AGC AMP
HEAD SW
AMP
Video Head (L')
HEAD SW
AMP
Video Head (R)
Head SW Pulse
(TP2001)
30Hz: NTSC
25Hz: PAL /SECAM
CH1
CH2
CHOP Mode
Trigger to CH2
Head Amp Output (RF Signal) (TP3001)
Head SW Pulse 25Hz: PAL/SECAM 30Hz: NTSC (TP2001)

Fig. M7 Connect of Oscilloscope

2. Playback the alignment tape.
3. If the RF envelope appears like example "A" or "B" in Fig.M8 then adjustment of the tape guide post (P2: Entrance) is necessary.
4. Adjust the tape guide post (P2) with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown in Fig.M8−"C".

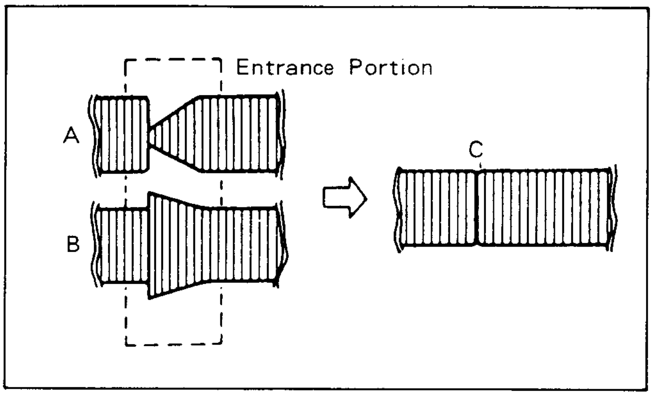

Entrance Portion
A
B
C

Fig. M8

5. If the RF envelope appears like example "D" or "E" in Fig.M9, then adjustment of the tape guide post (P3: Exit) is necessary.
6. Adjust the tape guide post (P3) in the same manner as the P2 post so that the exit portion becomes flat as shown in Fig.M9−"F".

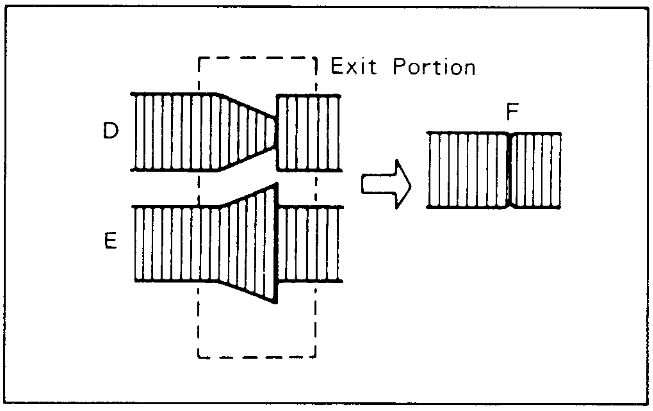

Exit Portion
D
E
F

Fig. M9

7. Turn the Tracking VR fully clockwise and counter clockwise. (Keep pressing + button or − button on the Remote Controller) The output envelope should vary nearly parallel with other condition as shown in Fig.M10.
8. Set the tracking control into centre fix position and adjust for maximum RF envelope, whilst being as flat as possible.

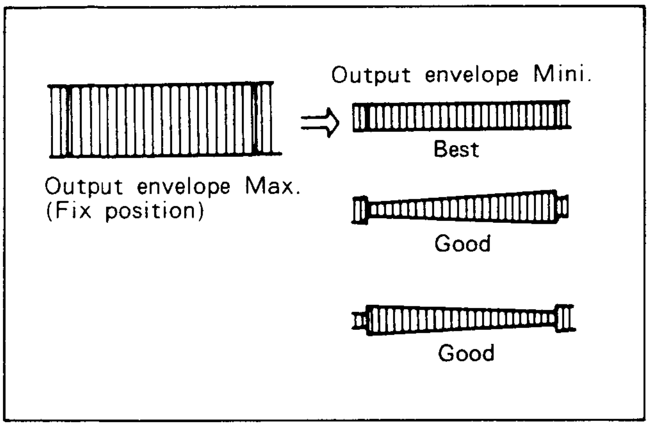

Output envelope Mini.
Best
Output envelope Max.
(Fix position)
Good
Good

Fig. M10

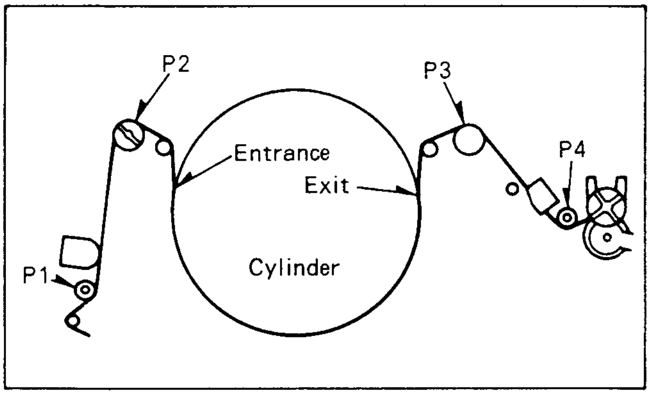

P2
P3
Entrance
Exit
P4
P1
Cylinder

Fig. M11 Loading of Posts

(2) Height Adjustment of A/C Head (1)

1) Install the A/C HEAD on the A/C HEAD BASE(E) by 3 screws (A),(B) and (C) with springs.
2) Tighten the screw (A) unit it touches chassis and then rotate the SCREW (A) counterclockwise for approx. 1.5 times.
3) Rotate the 2 screws(B) and (C) until A/C HEAD BASE(D) and (E) is separate.

CAUTION:
When adjusting the Screws (B) and (C) on the A/C HEAD BASE(E), do not touch the Screw Driver to the face of the A/C HEAD.

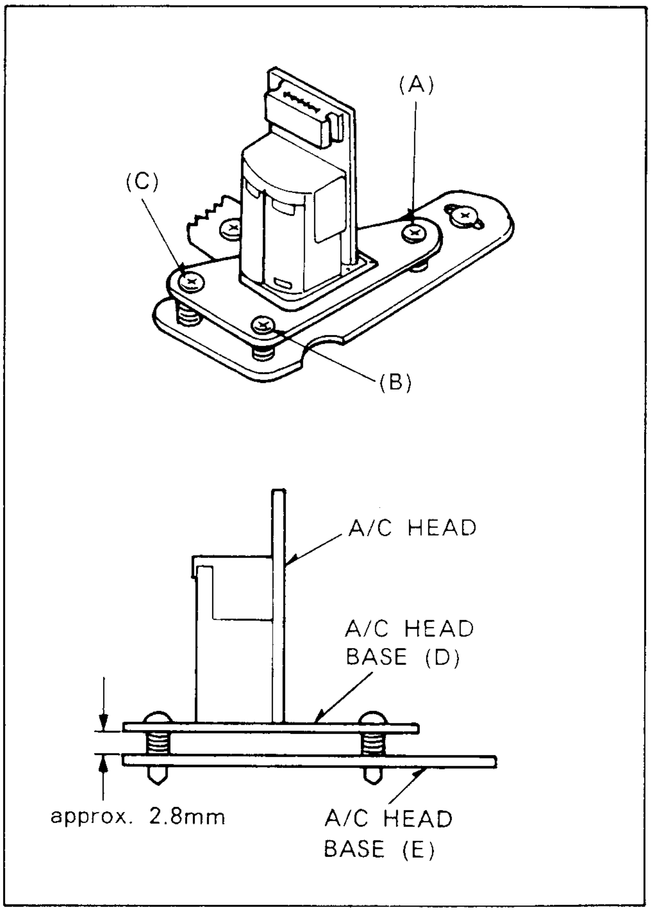
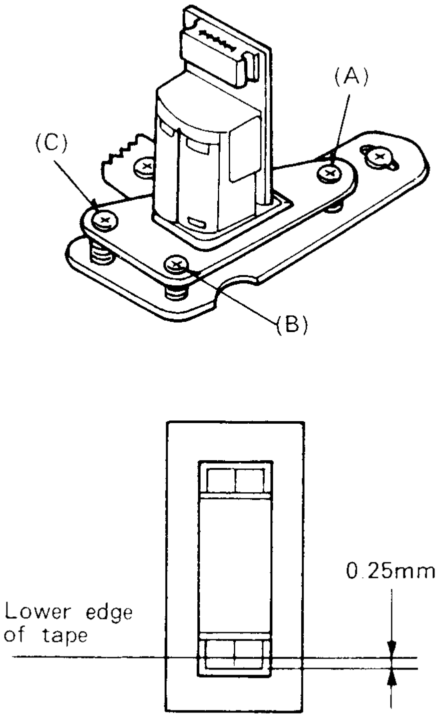

(A)
(C)
(B)
A/C HEAD
A/C HEAD BASE (D)
approx. 2.8mm
A/C HEAD BASE (E)

Fig. M12

(3) Height Adjustment of A/C Head (2)

1) Playback the alignment tape.
2) Rotate the screw (A) or (B) until the wrinkle appears on the lower edge of tape at P4 post.
3) Rotate the screw (A) or (B) until the wrinkle just disappears on the lower edge of tape at P4 post.
4) Connect the oscilloscope to audio output terminal.
5) Rotate the screw (C) until audio signal is maximized.



	SCREW (A)	SCREW (B)
So wrinkle appears on the lower edge of tape	COUNTER' CLOCKWISE	CLOCKWISE
So wrinkle disappears on the lower edge of tape	CLOCKWISE	COUNTER CLOCKWISE

Fig. M13

(4) Fine-Adjustment of A/C HEAD

<When moving the A/C HEAD up>

1) Rotate the screw (A) counterclockwise until the wrinkle appears on the lower edge of tape at P4 post.
2) Rotate the screw (B) counterclockwise until the wrinkle just disappears on the lower edge of tape at P4 post.
3) Rotate the screw (C) counterclockwise until the audio signal is maximized.

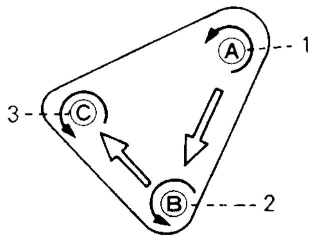


Fig. M14

<When moving the A/C HEAD down>

1) Rotate the screw (B) clockwise until the wrinkle appears on the lower edge of tape a P4 post.
2) Rotate the screw (A) clockwise until the wrinkle just disappears on the lower edge of tape at P4 post.
3) Rotate the screw (C) clockwise until the audio signal is miximized.

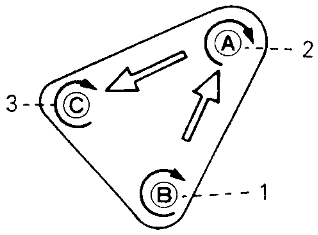


Fig. M15

(5) Horizontal Position Adjustment of A/C HEAD

1) Set the tracking control into the centre fix position. (by pressing the tracking (+) and (−) button simultaneously on the Remote Controller)
2) Connect the oscilloscope to the output of the Head Amp as shown in Fig.M7.
3) Playback the alignment tape.
4) Loosen the 2 screws (F) and (G).
5) Adjust the A/C HEAD BASE (E) until the RF envelope waveform is maximized.

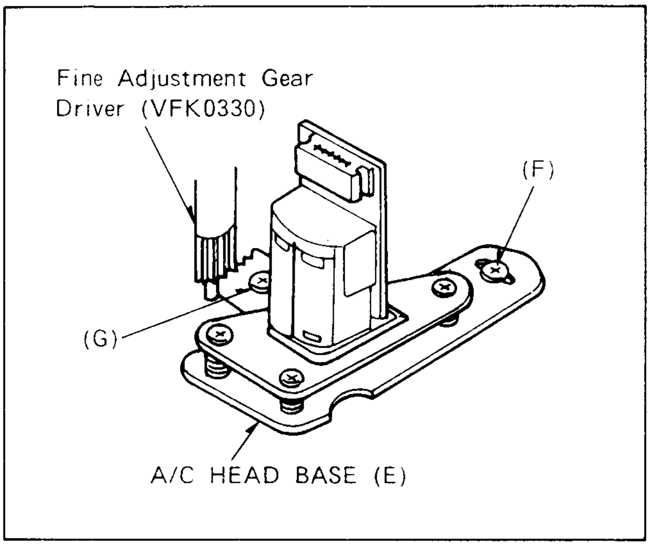

Fine Adjustment Gear
Driver (VFK0330)
(F)
(G)
A/C HEAD BASE (E)

Fig. M16

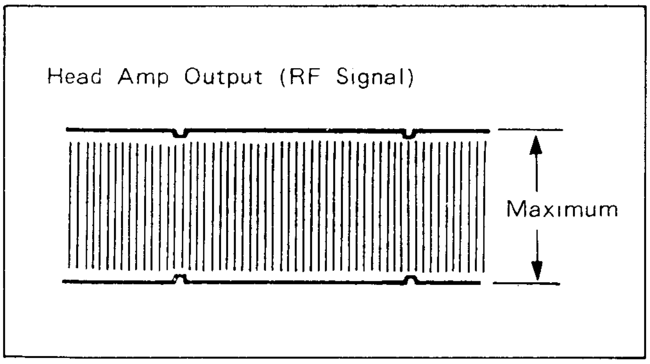
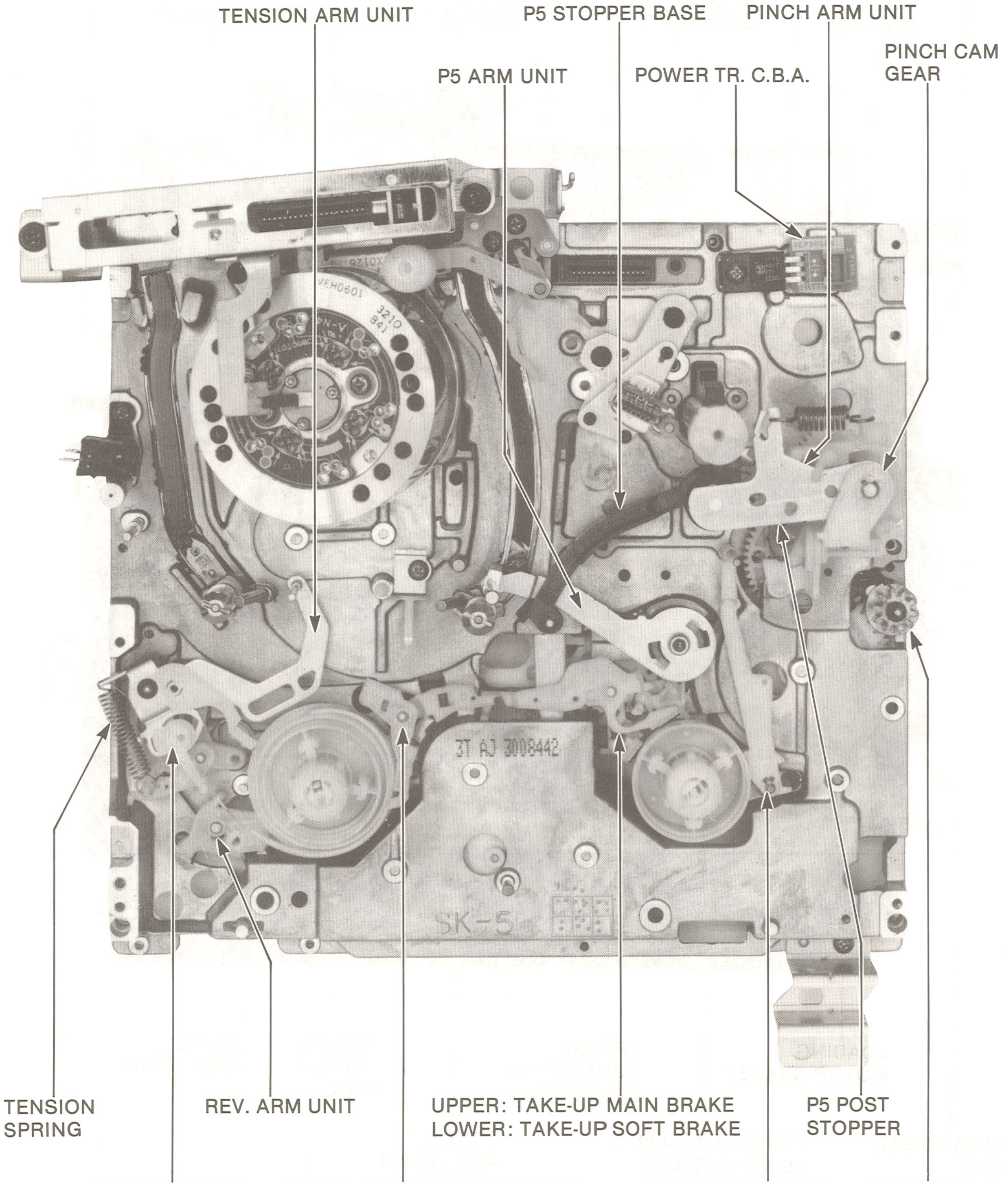


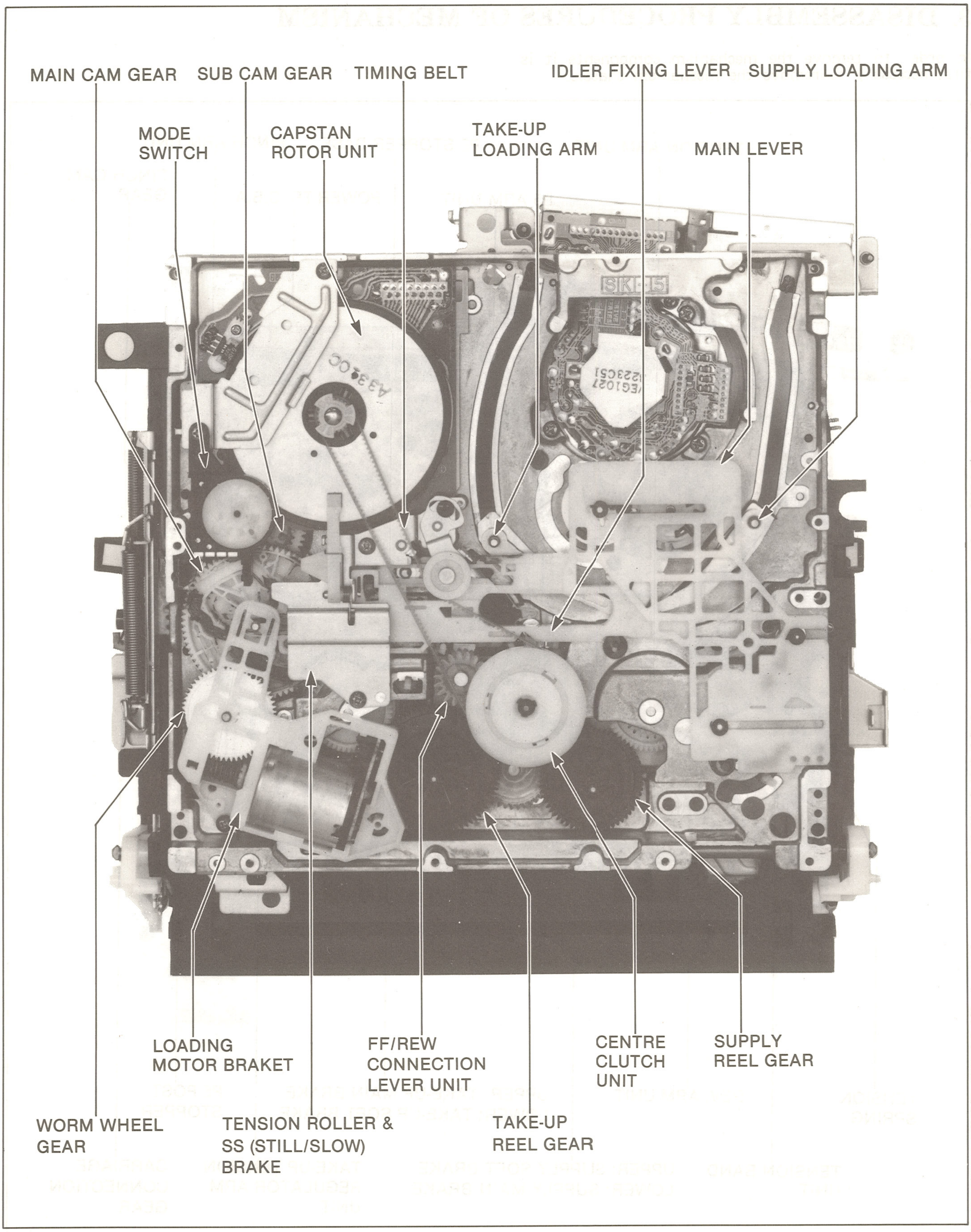
Fig. M17

3. DISASSEMBLY PROCEDURES OF MECHANISM

In order to remove the mechanism components it is first necessary to remove the mechanism chassis.


TENSION ARM UNIT
P5 STOPPER BASE
PINCH ARM UNIT
PINCH CAM GEAR
P5 ARM UNIT
POWER TR. C.B.A.
TENSION SPRING
REV. ARM UNIT
UPPER: TAKE-UP MAIN BRAKE
LOWER: TAKE-UP SOFT BRAKE
P5 POST STOPPER
TENSION BAND UNIT
UPPER: SUPPLY SOFT BRAKE
LOWER: SUPPLY MAIN BRAKE
TAKE-UP TENSION REGULATOR ARM UNIT
CARRIAGE CONNECTION GEAR

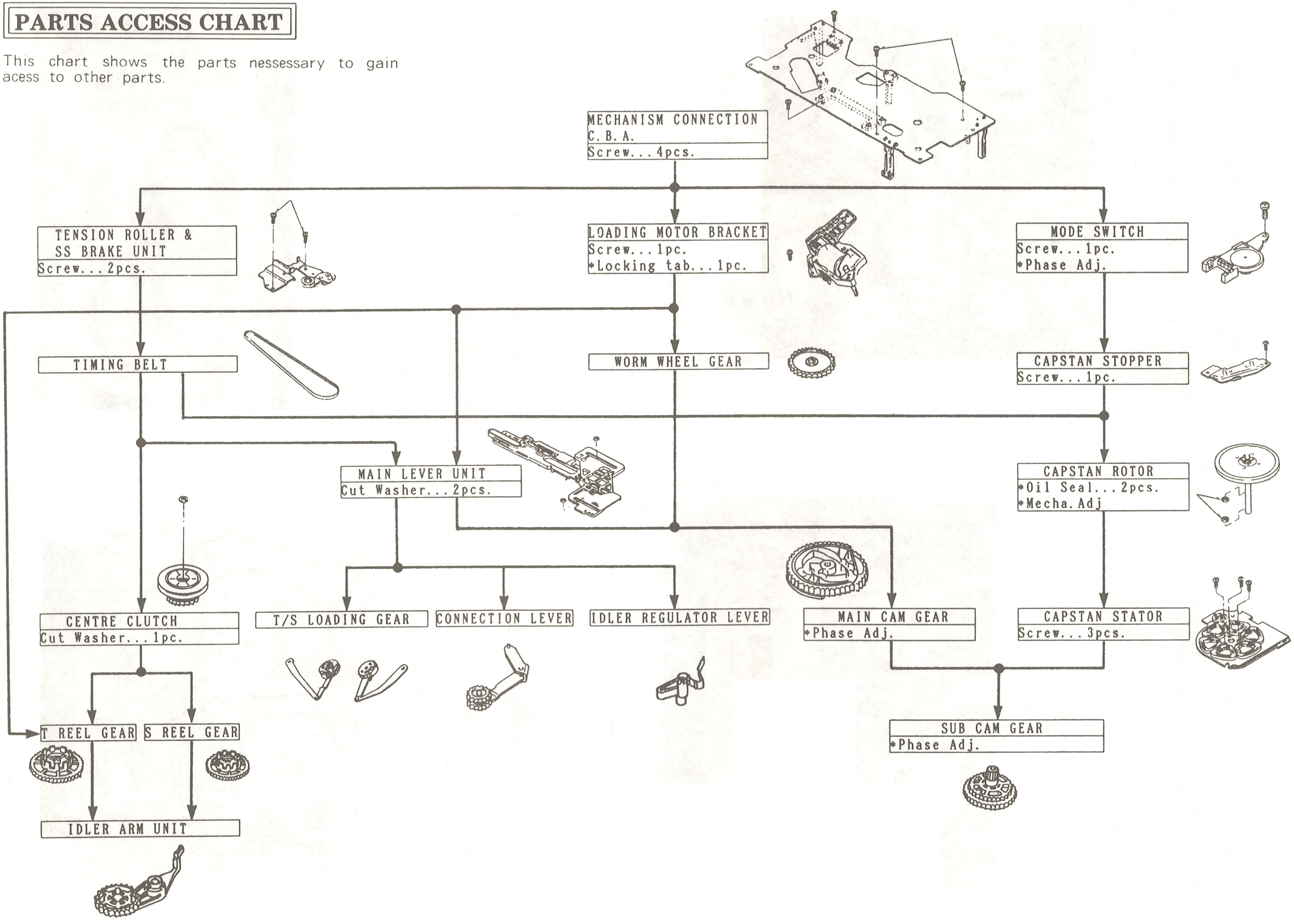
TOP VIEW OF K-MECHANISM


MAIN CAM GEAR
SUB CAM GEAR
TIMING BELT
IDLER FIXING LEVER
SUPPLY LOADING ARM
MODE SWITCH
CAPSTAN ROTOR UNIT
TAKE-UP LOADING ARM
MAIN LEVER
LOADING MOTOR BRAKET
FF/REW CONNECTION LEVER UNIT
CENTRE CLUTCH UNIT
SUPPLY REEL GEAR
WORM WHEEL GEAR
TENSION ROLLER & SS (STILL/SLOW) BRAKE
TAKE-UP REEL GEAR

BOTTOM VIEW OF K-MECHANISM

PARTS ACCESS CHART

This chart shows the parts nessessary to gain acess to other parts.


MECHANISM CONNECTION C. B. A.
Screw...4pcs.
TENSION ROLLER & SS BRAKE UNIT
Screw...2pcs.
LOADING MOTOR BRACKET
Screw...1pc.
*Locking tab...1pc.
MODE SWITCH
Screw...1pc.
*Phase Adj.
TIMING BELT
WORM WHEEL GEAR
CAPSTAN STOPPER
Screw...1pc.
MAIN LEVER UNIT
Cut Washer...2pcs.
CAPSTAN ROTOR
*Oil Seal...2pcs.
*Mecha. Adj
CENTRE CLUTCH
Cut Washer...1pc.
T/S LOADING GEAR
CONNECTION LEVER
IDLER REGULATOR LEVER
MAIN CAM GEAR
*Phase Adj.
CAPSTAN STATOR
Screw...3pcs.
T REEL GEAR
S REEL GEAR
SUB CAM GEAR
*Phase Adj.
IDLER ARM UNIT

3-1. REMOVAL OF THE MECHANISM CHASSIS

1) Remove the 2 screws(A) push the HOLDER PLATE slightly to the rear of mechanism.
2) Remove the screw(B).
3) Disconnect all cables and connectors on the mechanism chassis and connector P6003 on the MAIN C.B.A.(connecting to DEW SENSOR). (Use extreme care when disconnecting the P1508)
4) Lift the mechanism chassis out of the unit.

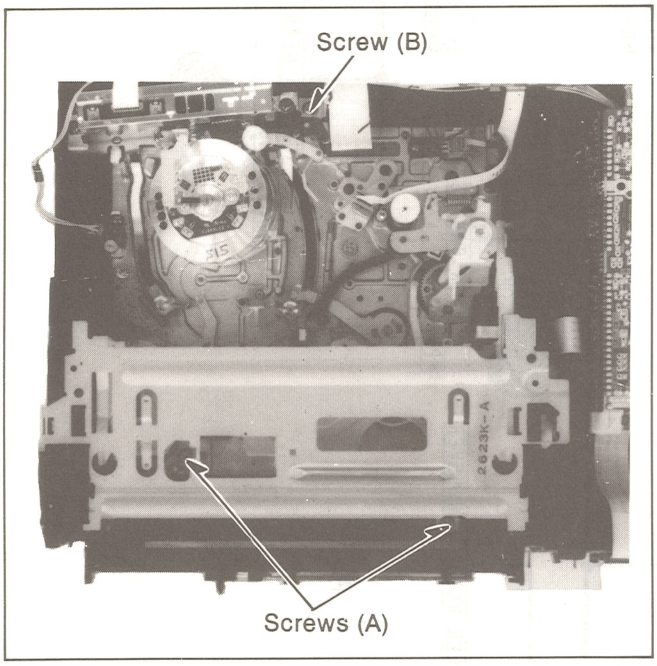

Screw (B)
Screws (A)

Fig. A1

3-2. REMOVAL OF THE MECHANISM CONNECTION C.B.A.

1) Remove the 4 screws(C).
2) Lift up on the C.B.A.

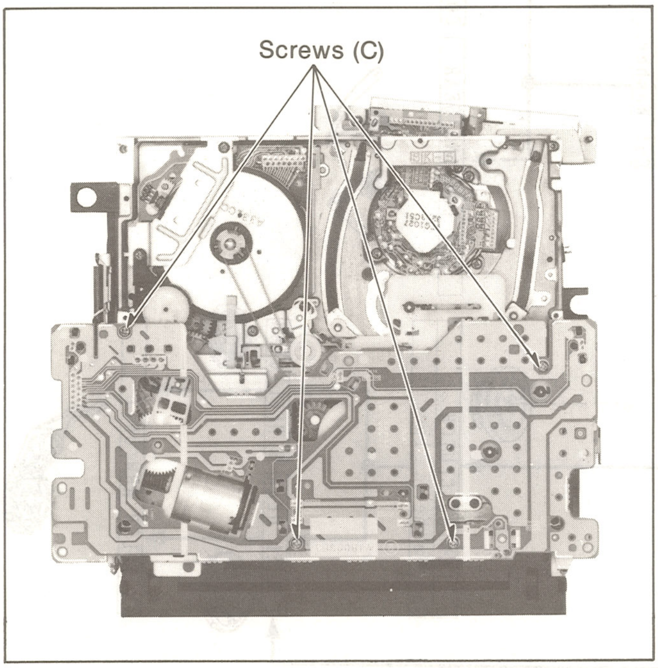


Fig. A2

3-3. REMOVAL OF THE TENSION ROLLER AND SS BRAKE

1) Remove the 2 screws(D).
2) Remove the TENSION ROLLER and the SS BRAKE.

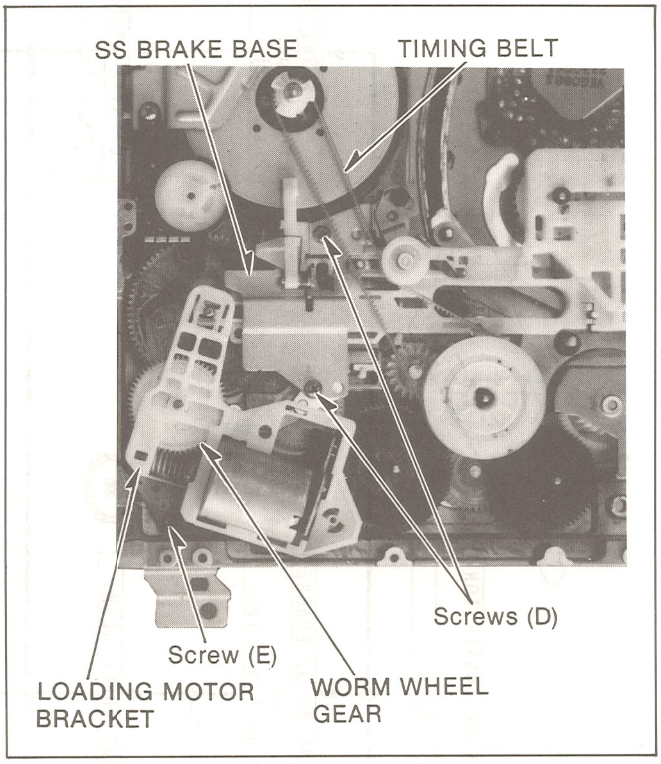

SS BRAKE BASE
TIMING BELT
Screws (D)
Screw (E)
LOADING MOTOR BRACKET
WORM WHEEL GEAR

Fig. A3

3-4. REMOVAL OF THE TIMING BELT

1) Remove the TIMING BELT.

3-5. REMOVAL OF THE LOADING MOTOR BRACKET

1) Remove the screw(E) as shown in Fig.A3.
2) Disconnect the locking tab on the right by pushing the locking tab in as shown in Fig.A4.
3) Lift up on the LOADING MOTOR BRACKET and push the BRACKET towards the MAIN CAM GEAR as shown in Fig.A3.
4) Lift the WORM WHEEL GEAR off the shaft.

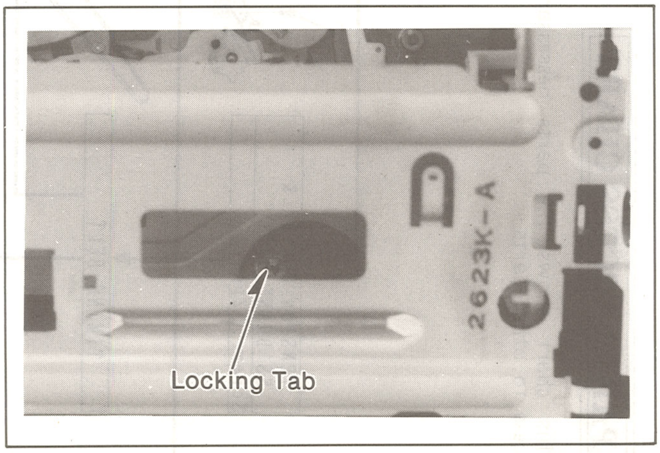

2623K-A
Locking Tab

Fig. A4

3-6. REMOVAL OF THE MAIN LEVER UNIT

1) Remove the 3 cut washers.
2) Remove the MAIN LEVER UNIT.

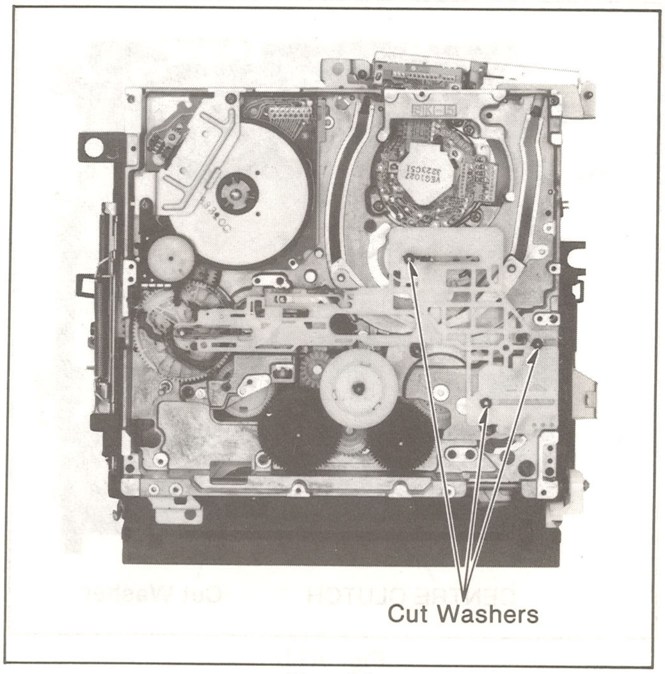

Cut Washers

Fig. A5

3-7. REMOVAL OF THE TAKE-UP AND SUPPLY LOADING ARMS

1) Remove the TAKE-UP and SUPPLY LOADING GEARs by lifting them up off the post.

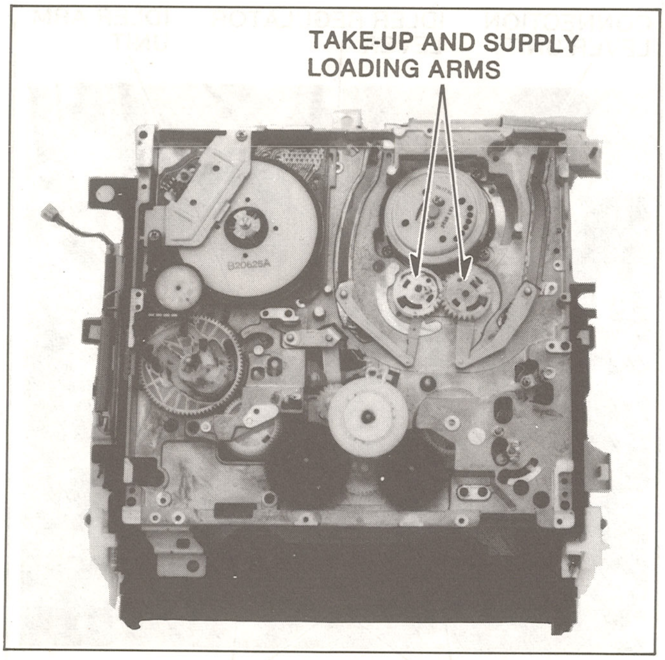

TAKE-UP AND SUPPLY
LOADING ARMS

Fig. A6

3-8. REMOVAL OF THE MODE SWITCH

1) Remove screw(F).
2) Remove the MODE SWITCH.

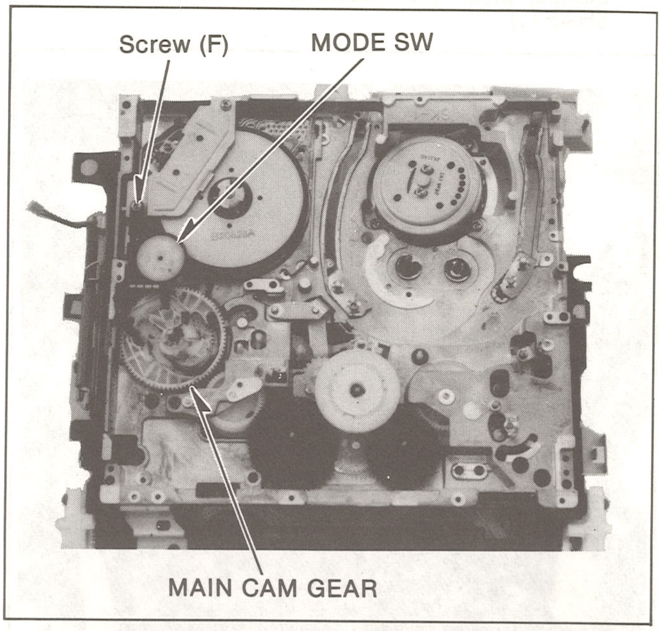

Screw (F)
MODE SW
MAIN CAM GEAR

Fig. A7

3-9. REMOVAL OF THE MAIN CAM GEAR

1) Lift the MAIN CAM GEAR off the shaft.

3-10. REMOVAL OF THE CAPSTAN ROTOR UNIT

1) Remove the screw(G) and remove the CAPSTAN STOPPER as shown in Fig.A8.

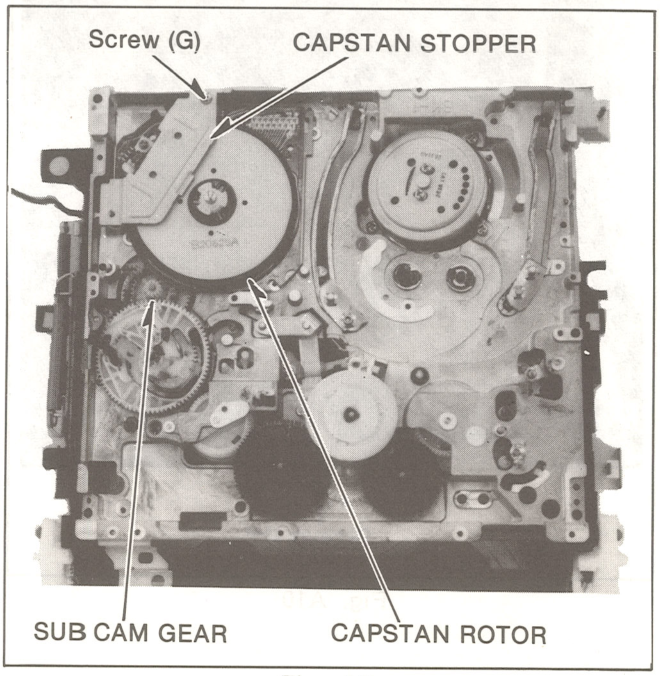

Screw (G)
CAPSTAN STOPPER
SUB CAM GEAR
CAPSTAN ROTOR

Fig. A8

2) Pull out the CAPSTAN ROTOR. (When the CAPSTAN ROTOR is removed, 2 OIL SEALs are left in the CAPSTAN ROTOR HOUSING Fig.A9.. To avoid losing the OIL SEALs, place them back on the CAPSTAN SHAFT.)

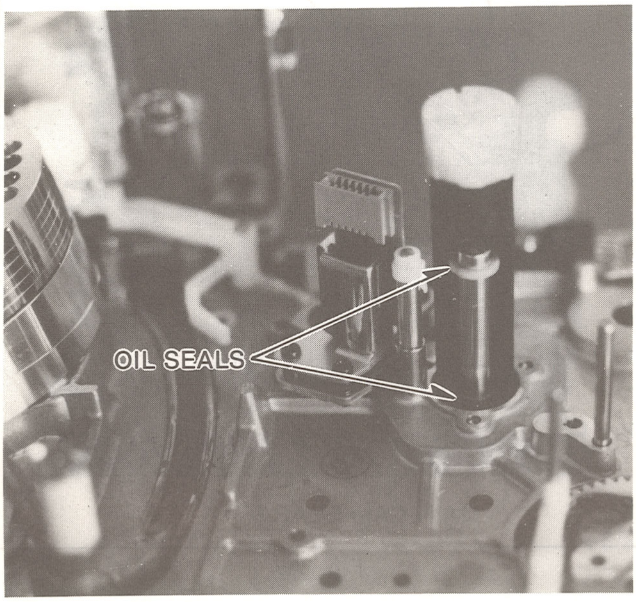


Fig. A9

3) Remove the 3 screws(H) and remove the CAPSTAN STATOR as shown in Fig.A10.

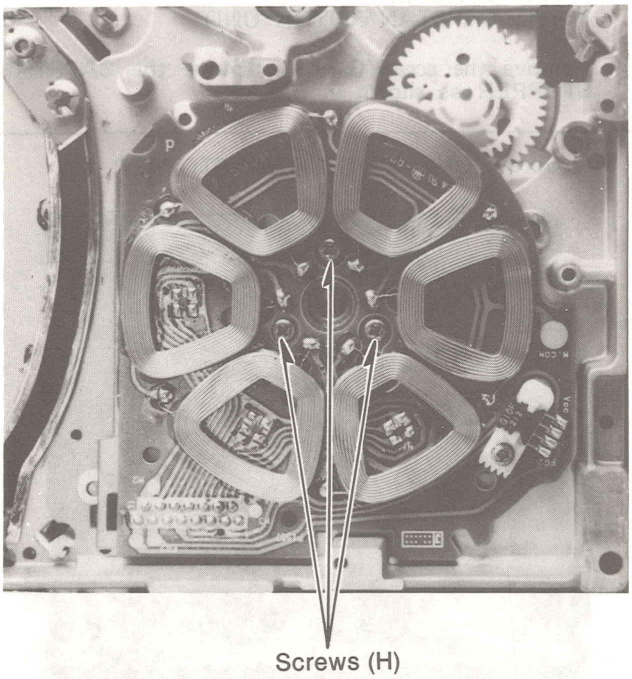


Fig. A10

3–11. REMOVAL OF THE SUB CAM GEAR

1) Lift the SUB CAM GEAR off the shaft.

3–12. REMOVAL OF THE CENTRE CLUTCH

1) Remove the cut washer.
2) Remove the CENTRE CLUTCH.

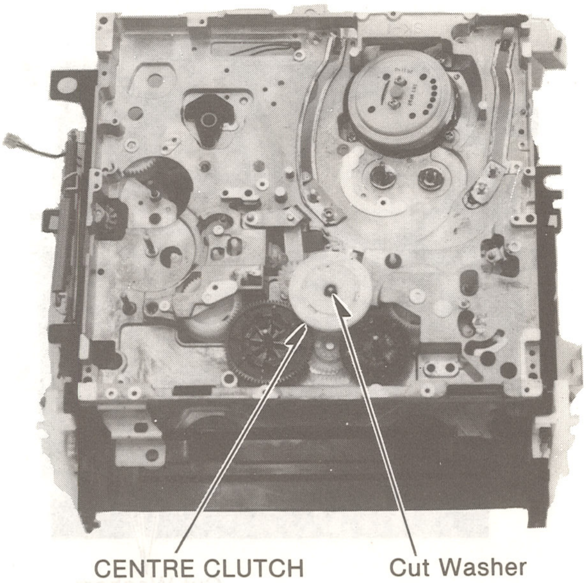

CENTRE CLUTCH
Cut Washer

Fig. A11

3–13. REMOVAL OF THE TAKE–UP AND SUPPLY REEL GEARS

1) Unlock the locking tab and lift up on the reel.

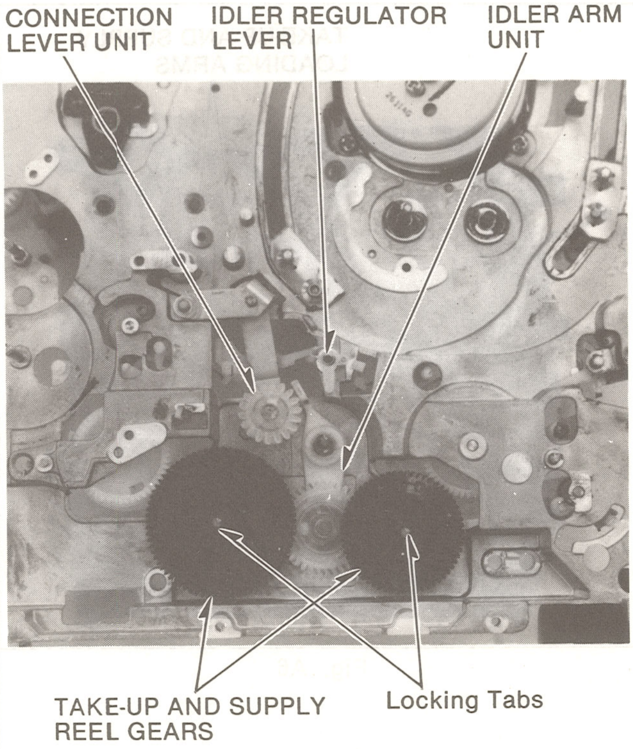

CONNECTION LEVER UNIT
IDLER REGULATOR LEVER
IDLER ARM UNIT
TAKE-UP AND SUPPLY REEL GEARS
Locking Tabs

Fig. A12

3–14. REMOVAL OF THE IDLER ARM UNIT, CONNECTION LEVER UNIT AND IDLER REGULATOR LEVER

1) Lift the IDLER ARM UNIT and CONNECTION LEVER UNIT off the shaft.
2) Remove the IDLER REGULATOR LEVER.

3–15. REMOVAL OF THE TOP PLATE

1) Push the locking tabs from the outer side to inside as shown in Fig.A13.
2) Lift up on the TOP PLATE.

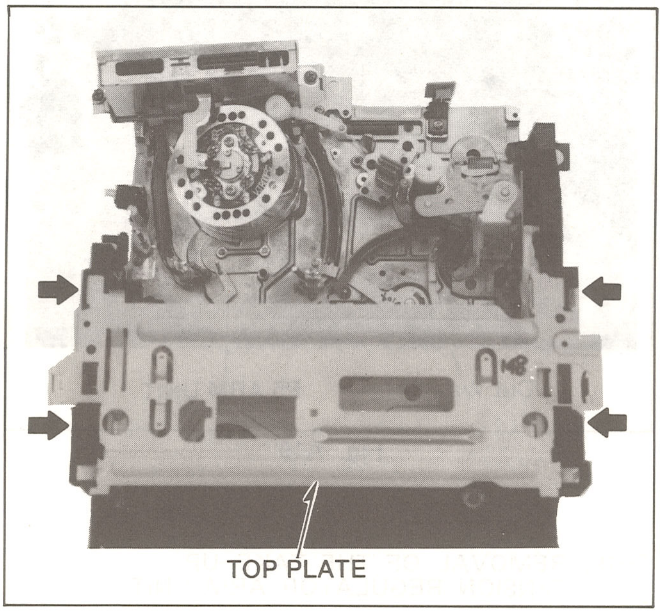


Fig. A13

NOTE:
If locking tab is broken, TOP PLATE can be installed by screws(XTB26+8G) as shown in Fig.A14.

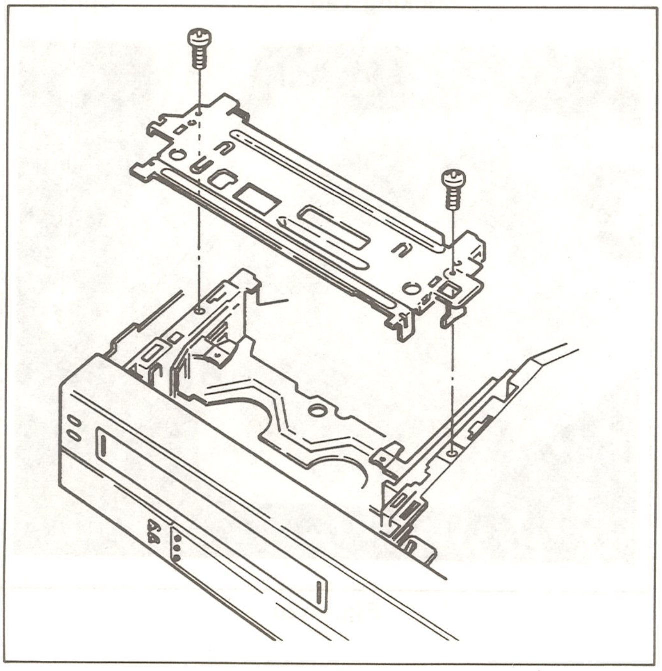


Fig. A14

3–16. REMOVAL OF THE CASSETTE HOLDER

1) Slide the HOLDER PLATE in the rear and lift up.
2) Remove the 4 screws(I).
3) Remove the CASSETTE HOLDER.

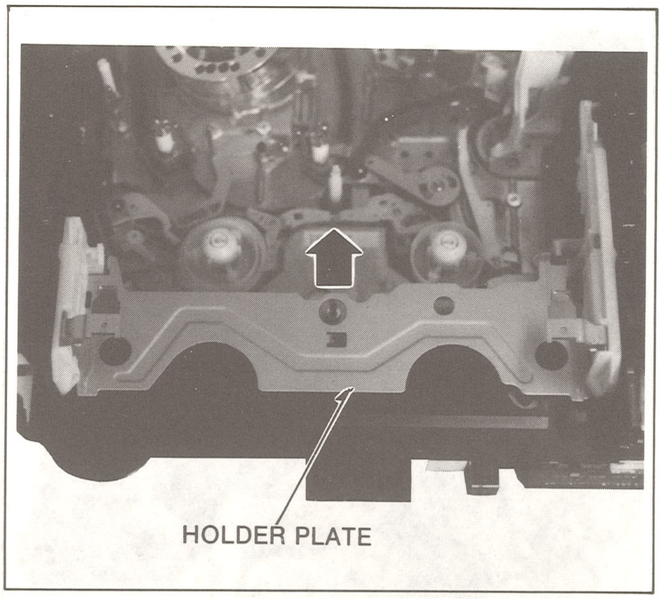


Fig. A15

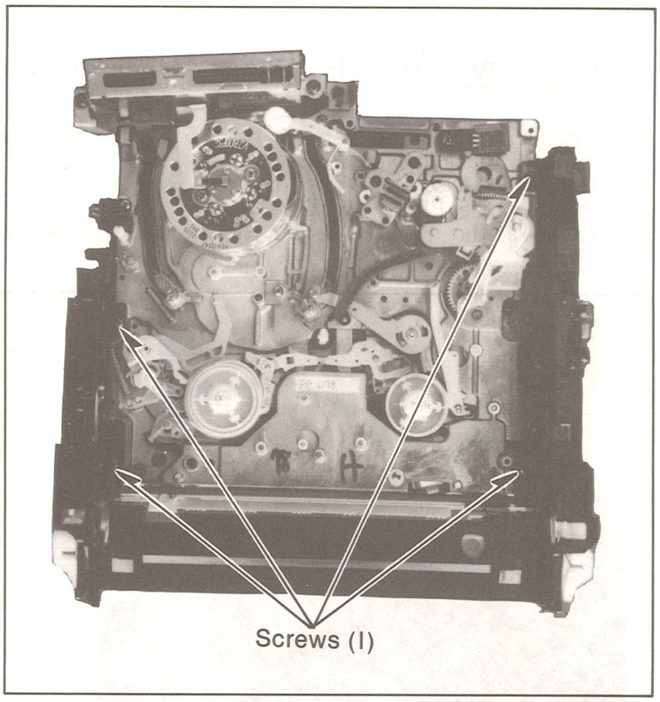


Fig. A16

3–17. REMOVAL OF THE PINCH ARM UNIT

1) Unlock the locking tab on the OPENER PIECE and remove it from the shaft.
2) Remove the PINCH ARM UNIT from the shaft.

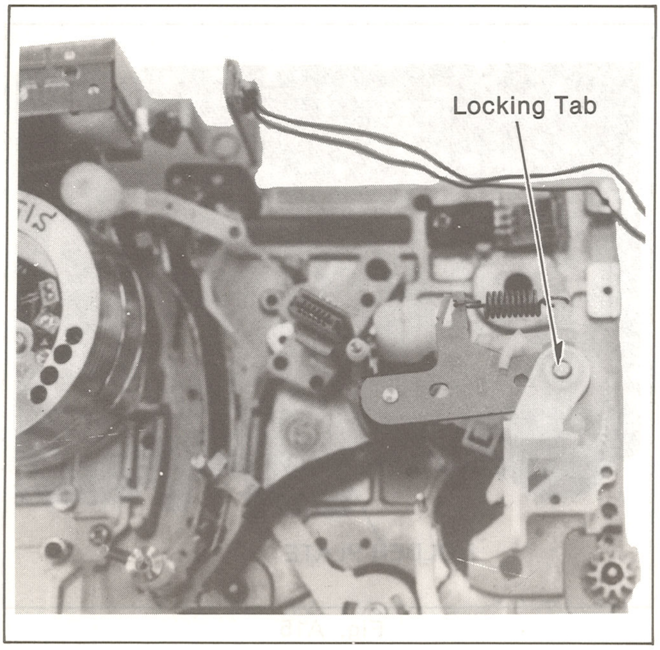

Locking Tab

Fig. A17

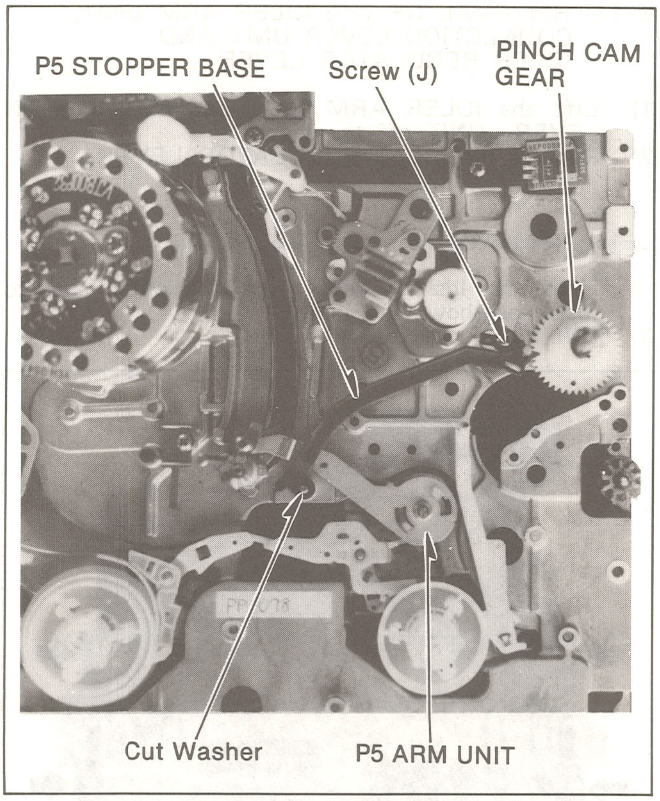

P5 STOPPER BASE
Screw (J)
PINCH CAM GEAR
Cut Washer
P5 ARM UNIT

Fig. A19

3–18. REMOVAL OF THE PINCH CAM GEAR AND P5 ARM UNIT

1) Unlock the locking tab of the P5 STOPPER and remove the P5 STOPPER.
2) Remove the screw(J) and the cut washer.
3) Remove the P5 STOPPER BASE.
4) Remove the PINCH CAM GEAR and P5 ARM UNIT.

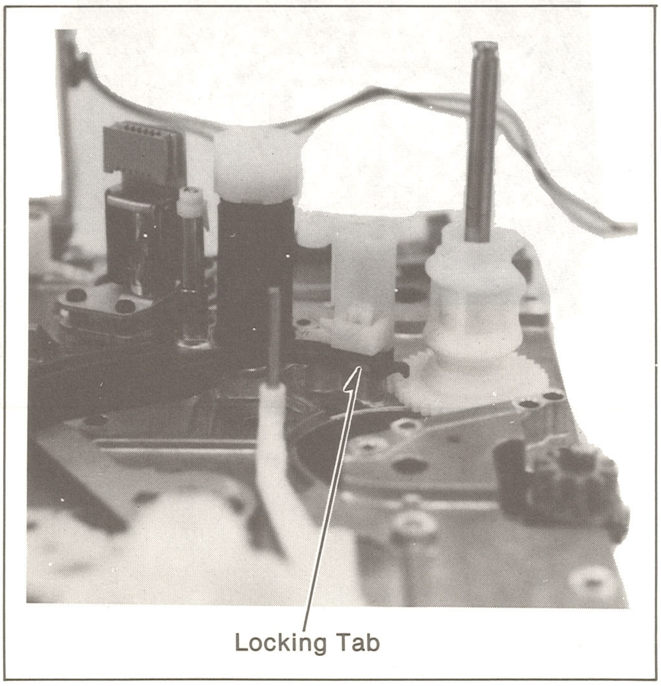

Locking Tab

Fig. A18

3–19. REMOVAL OF THE TAKE–UP TENSION REGULATOR ARM UNIT

1) Disconnect the spring from the bottom of the chassis.
2) Unlock the locking tab and lift the TAKE–UP TENSION REGULATOR ARM UNIT off the shaft.

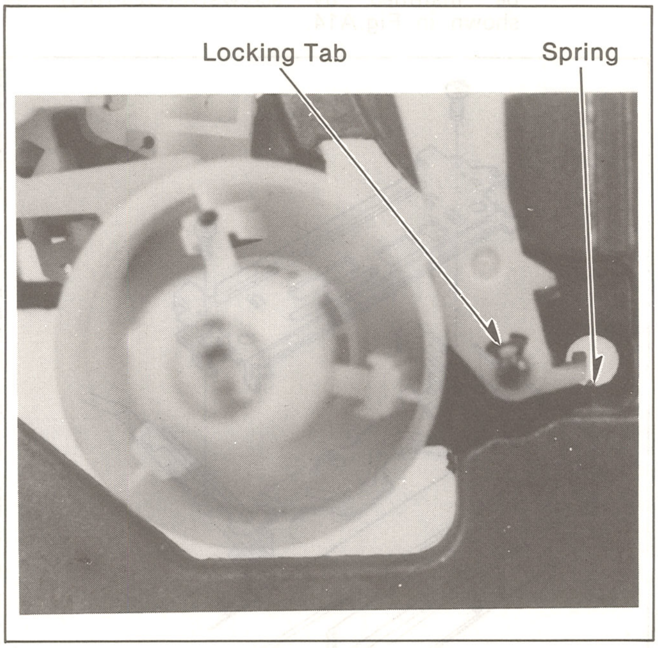

Locking Tab
Spring

Fig. A20

3–20. REMOVAL OF THE CARRIAGE CONNECTION GEAR

1) Remove the cut washer.
2) Lift the CARRIAGE CONNECTION GEAR off the shaft.

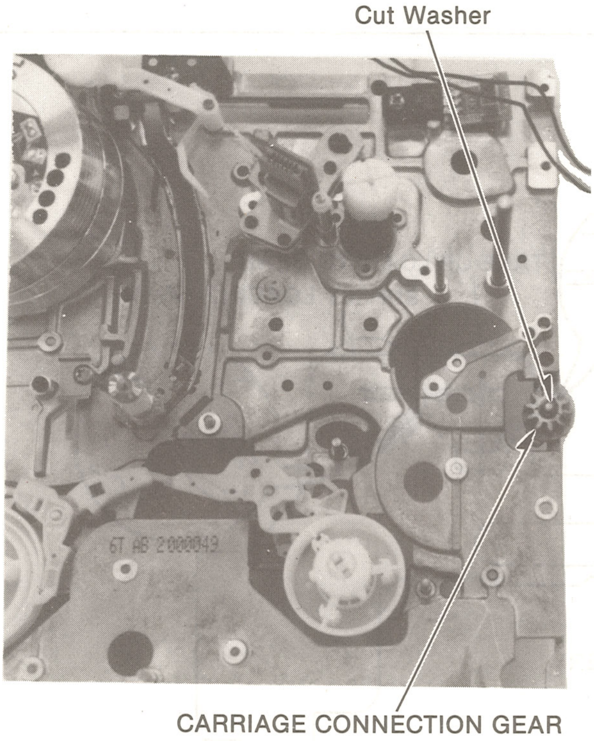

Cut Washer
CARRIAGE CONNECTION GEAR

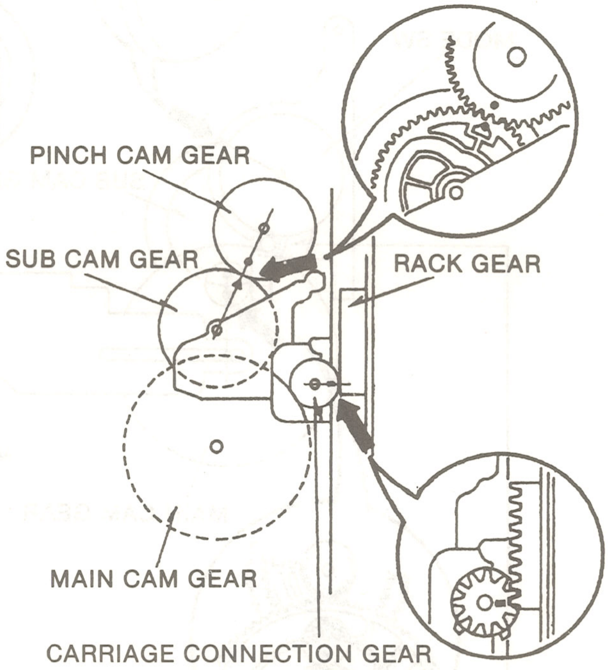
Fig. A21

4. ASSEMBLY PROCEDURES OF MECHANISM

4–1. VIEW OF PHASE ALIGNMENT

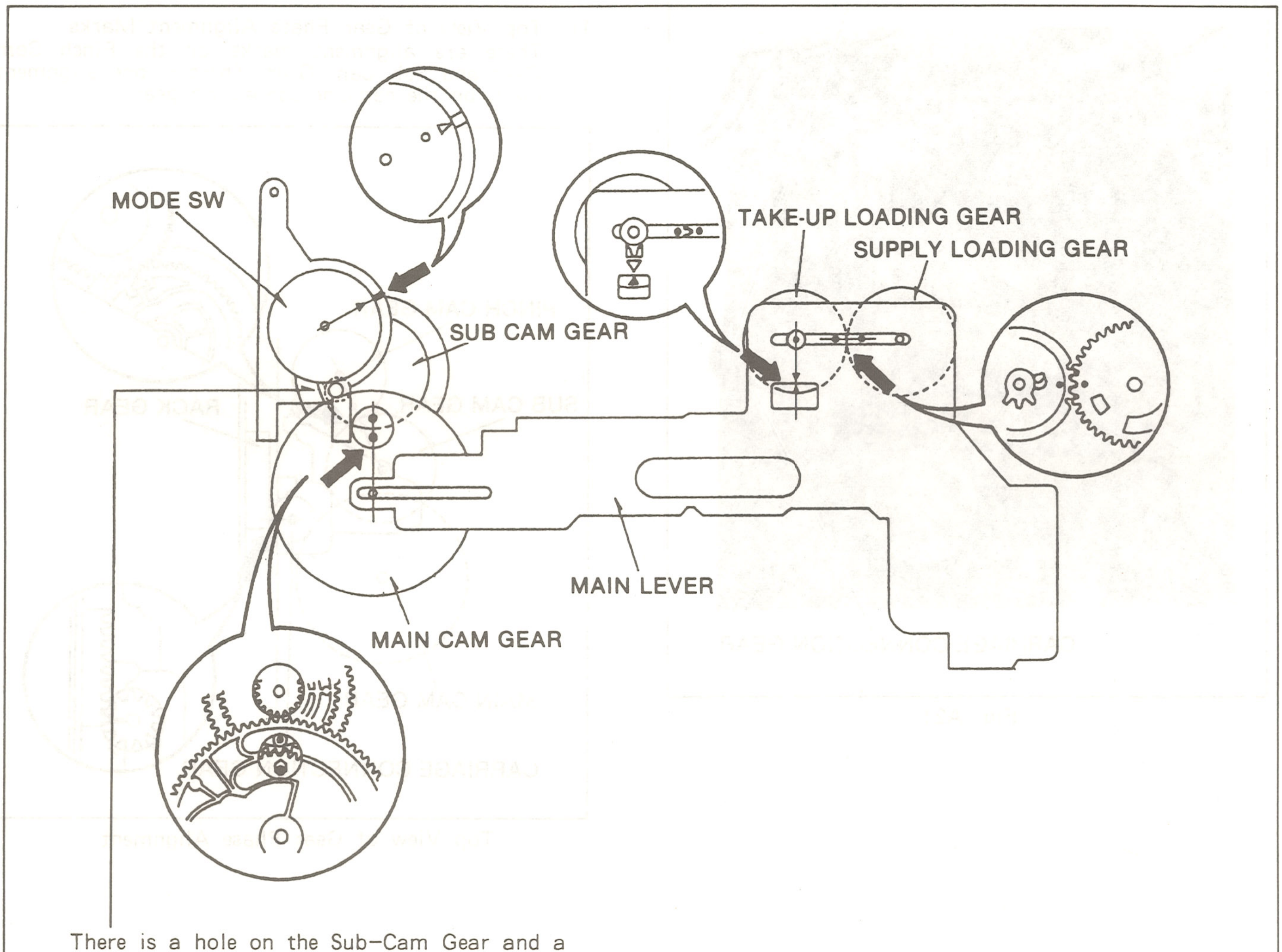
The gear phase alignment is performed in the cassette down position and is crucial for the K-Mechanism to operate correctly.

1) Top View of Gear Phase Alignment Marks.
   There are alignment marks on the Pinch Cam Gear and Sub Cam Gear. There is one alignment mark on the carriage connection gear.


PINCH CAM GEAR
SUB CAM GEAR
RACK GEAR
MAIN CAM GEAR
CARRIAGE CONNECTION GEAR

Top View of Gear Phase Alignment

2) Bottom View of Gear Phase Alignment Marks.
There are alignment marks on Take-up Loading Gear and Supply Loading Gear.
There is an additional mark on the Take-up Loading Gear that aligns with the mark on the main lever. There are alignment marks on the Main Cam Gear and the Sub Cam Gear. The mode switch gear mark aligns with a notch in the mode switch frame.


MODE SW
SUB CAM GEAR
TAKE-UP LOADING GEAR
SUPPLY LOADING GEAR
MAIN LEVER
MAIN CAM GEAR

There is a hole on the Sub-Cam Gear and a hole on the chassis that are used for alignment reference.

Bottom View of Gear Phase Alignment

4–2. ASSEMBLY OF THE CARRIAGE CONNECTION

1) Install the CARRIAGE CONNECTION GEAR as shown in Fig.A21.
2) Install the cut washer.

4–3. ASSEMBLY OF THE TAKE–UP TENSION REGULATOR ARM UNIT, P5 ARM UNIT PINCH CAM GEAR, P5 STOPPER BASE, P5 STOPPER, PINCH CAM UNIT AND OPENER PIECE

1) Install the TAKE–UP TENSION REGULATOR ARM UNIT.
2) Hook the spring to hole on the chassis.
3) Install the P5 ARM UNIT and PINCH CAM GEAR.
4) Install the P5 STOPPER BASE with cut washer and screw(J).
5) Install the P5 STOPPER, PINCH ARM UNIT and OPENER PIECE.

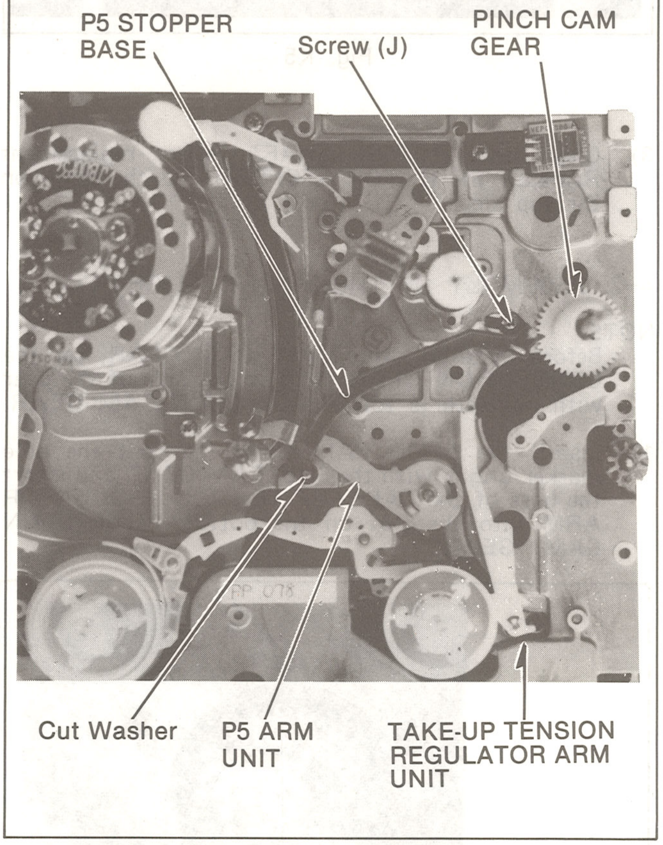

P5 STOPPER BASE
Screw (J)
PINCH CAM GEAR
Cut Washer
P5 ARM UNIT
TAKE-UP TENSION REGULATOR ARM UNIT

Fig. K1

4–4. ASSEMBLY OF THE IDLER ARM UNIT, TAKE–UP AND SUPPLY REEL GEARS, IDLER REGULATOR LEVER,CONNECTION LEVER UNIT AND CENTRE CLUTCH

1) Install the IDLER UNIT, TAKE–UP and SUPPLY REEL GEARs, IDLER REGULATOR LEVER and CONNECTION LEVER UNIT.
2) Install the CENTRE CLUTCH with cut washer.

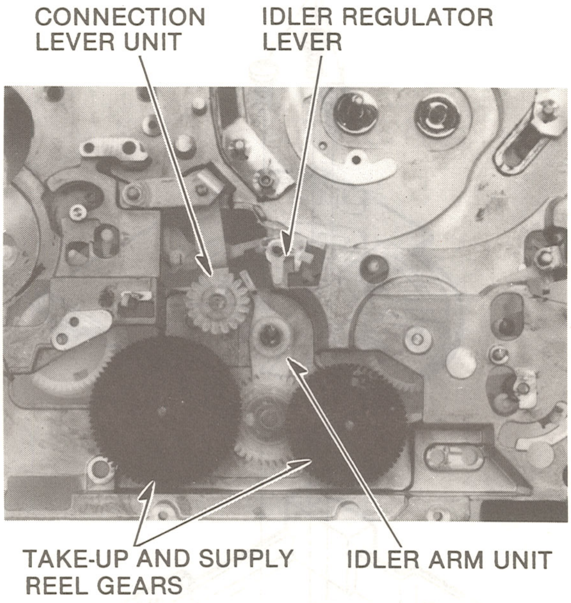

CONNECTION LEVER UNIT
IDLER REGULATOR LEVER
TAKE-UP AND SUPPLY REEL GEARS
IDLER ARM UNIT

Fig. K2

4–5. ASSEMBLY OF THE SUB CAM GEAR

The SUB CAM GEAR is used for the reference of the phase.

1) Install the SUB CAM GEAR so that the chassis hole aligns with hole in the SUB CAM GEAR. Also, the hole in the outer gear of the SUB CAM GEAR must align with the hole in the PINCH CAM GEAR. The boss on the PINCH ARM must be installed in the cam groove of the SUB–CAM GEAR. This is used for the reference of the phase. To aid installation of the SUB–CAM GEAR insert a fixing pin into the holes of the SUB–CAM GEAR and the chassis.

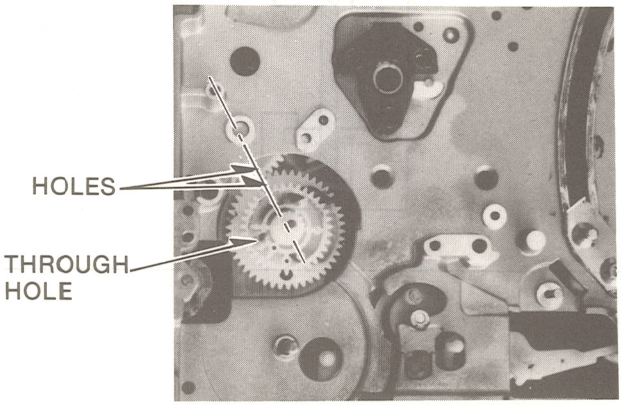

HOLES
THROUGH HOLE

Fig. K3

4–6. ASSEMBLY OF THE STATOR UNIT

1) Place the STATOR UNIT into position. Loosely reinstall the 3 screws that secure the STATOR and HOUSING UNIT. Next insert the CENTERING PIN then tighten the 3 screws as shown in Fig.K4.

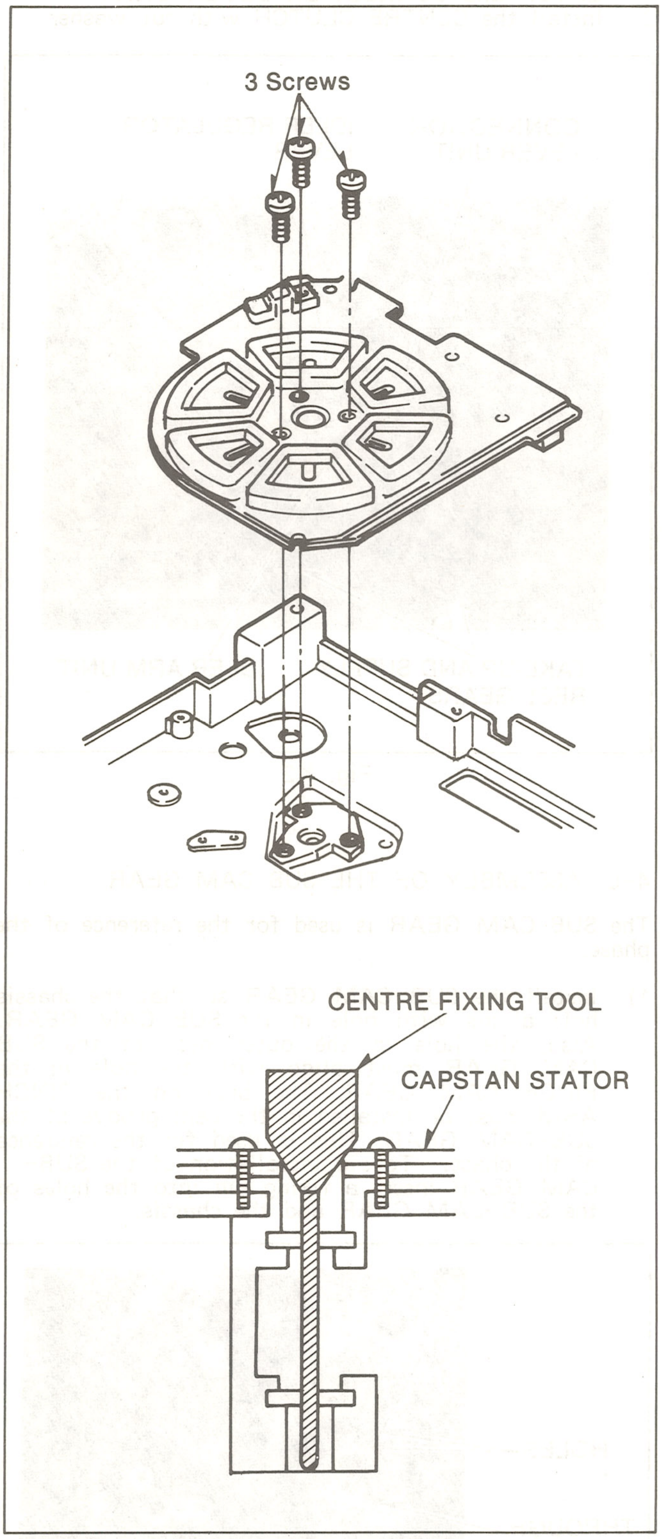


Fig. K4

2) Remove the oil seal from the ROTOR SHAFT Partially install the ROTOR SHAFT into the lower position and install the oil seal. Insert the ROTOR SHAFT further into the housing and install the second OIL SEAL in the upper position. Push the lower OIL SEAL down the ROTOR SHAFT into the housing.

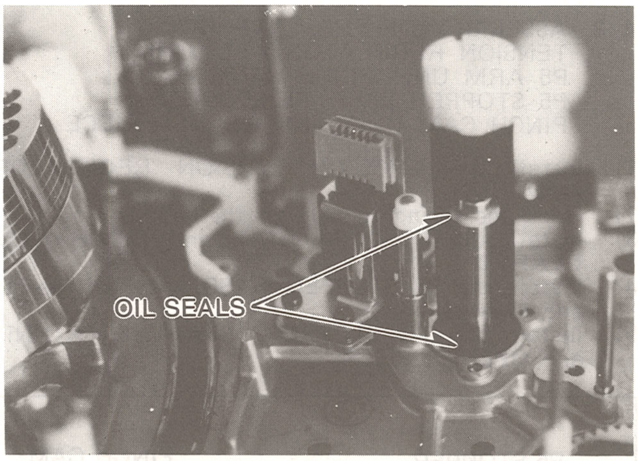


Fig. K5

3) Clean the ROTOR SHAFT after replacement. Reinstall the ROTOR STOPPER and the screw on the top side.

4–7. ASSEMBLY OF THE MAIN CAM GEAR

NOTE:
Before installing the MAIN CAM GEAR, set the CONNECTION GEAR so that the side of the gear with no teeth is towards the MAIN CAM GEAR.

1) Install the MAIN CAM GEAR so that the hole marker aligns with the SUB–CAM GEAR and insert the boss of the TAKE–UP TENSION REGULATOR ARM into the slot on the bottom of the MAIN CAM GEAR.

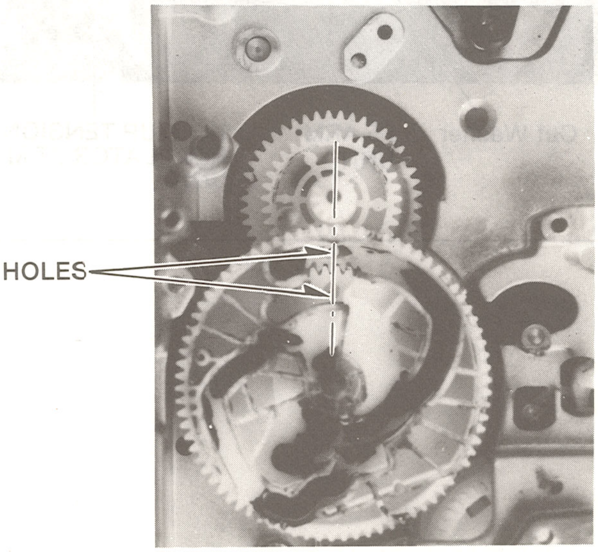


Fig. K6

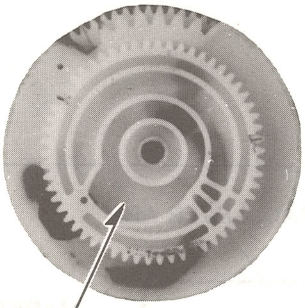


Fig. K7

4–8. ASSEMBLY OF THE MODE SW

1) Align the mark on the MODE SWITCH GEAR with the notch on the MODE SWITCH FRAME.
2) Install the MODE SWITCH taking care that all the phase alignments are correct. Check the CAM GEAR timing by rotating the MAIN CAM GEAR.
3) Install the screw(K) the retains the MODE SWITCH and ROTOR STOPPER.

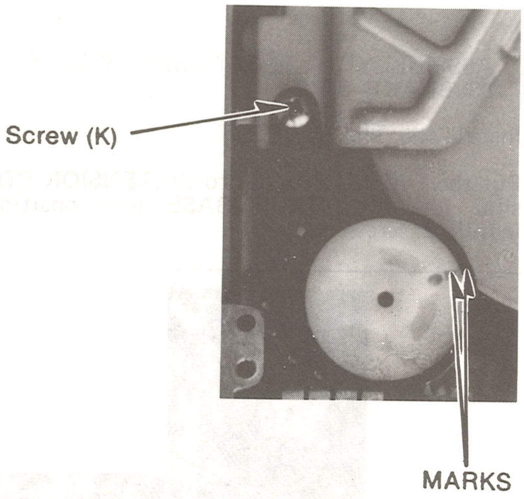


Fig. K8

4–9. ASSEMBLY OF THE T & S LOADING ARMS

1) Set the shaft holders to the unloaded position. Take care that the P5 POST does not interfere with the P3 Post or prevent it from going to the unloaded position. The TENSION ARM must be set to the position that will allow the P2 POST to move back to the unloaded position.

2) Install the TAKE–UP LOADING ARM and SUPPLY LOADING ARM, aligning the marks on the both GEARS.

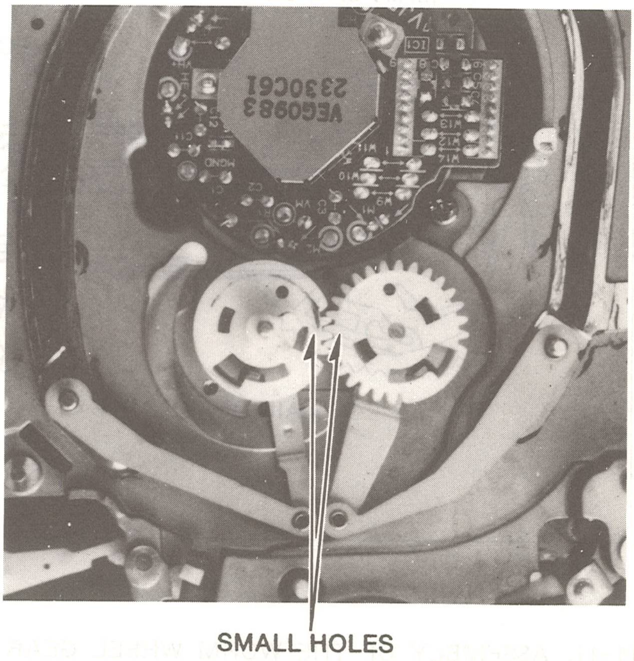


Fig. K9

4–10. ASSEMBLY OF THE MAIN LEVER

1) Install the MAIN LEVER ARM checking that the boss arms and shafts are in the correct position and the mark on the MAIN LEVER ARM is aligned with mark on the TAKE-UP LOADING GEAR.

2) Install the 3 cut washers.

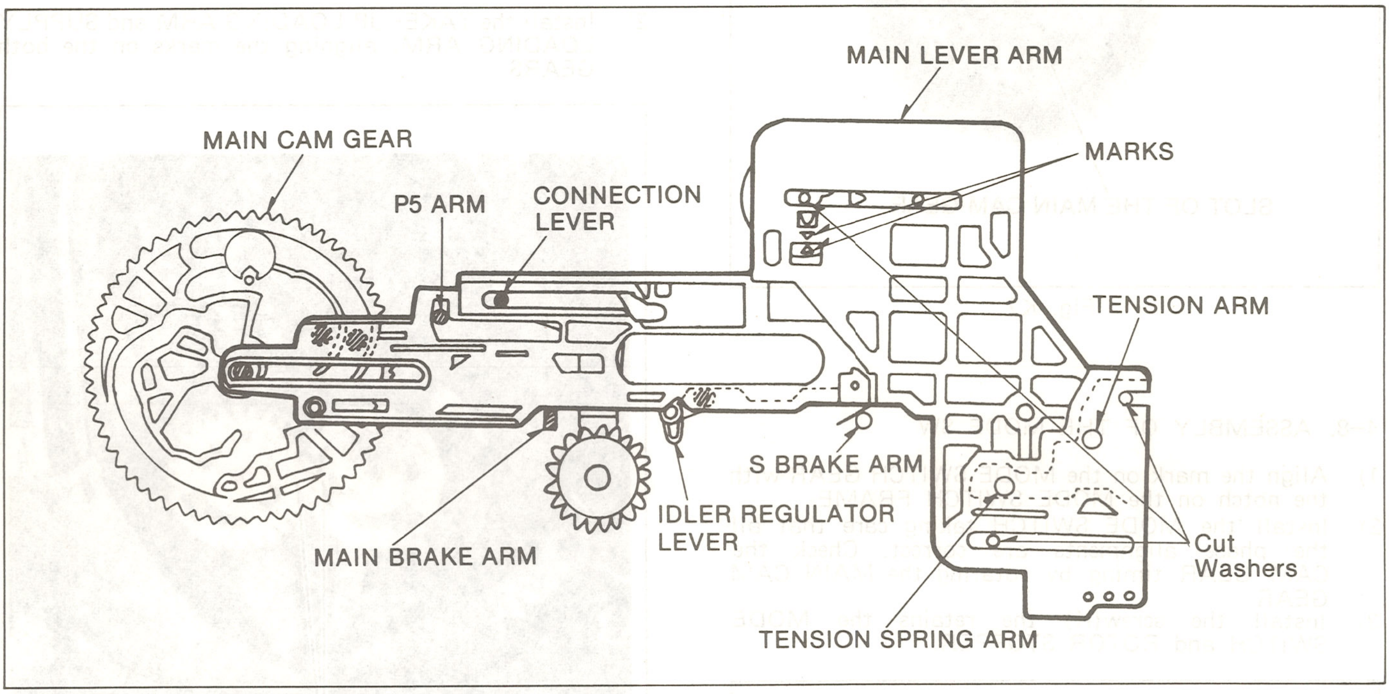

MAIN LEVER ARM
MAIN CAM GEAR
MARKS
P5 ARM
CONNECTION LEVER
TENSION ARM
S BRAKE ARM
IDLER REGULATOR LEVER
MAIN BRAKE ARM
Cut Washers
TENSION SPRING ARM

Fig. K10

4–11. ASSEMBLY OF THE WORM WHEEL GEAR & LOADING MOTOR BRACKET

1) Reinstall the WORM WHEEL GEAR.

2) Install the LOADING MOTOR BRACKET. First set the BRACKET over the MAIN CAM GEAR shaft and slide until it locks. Then push down on the BRACKET until the locking tab is connected to the chassis. Reinstall the screw(L).

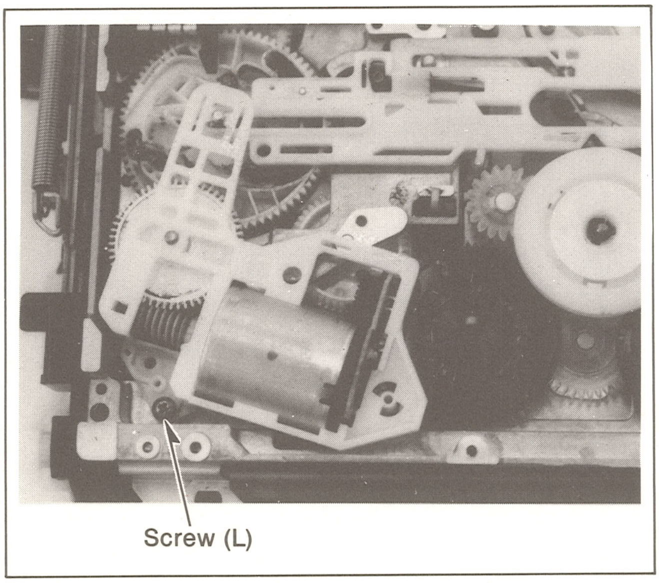


Fig. K11

4–12. ASSEMBLY OF THE TIMING BELT & SS BRAKE BASE

1) Install the TIMING BELT.

2) Put the TIMING BELT onto the TENSION ROLLER, slide the SS BRAKE BASE into position and install 2 screws(M).

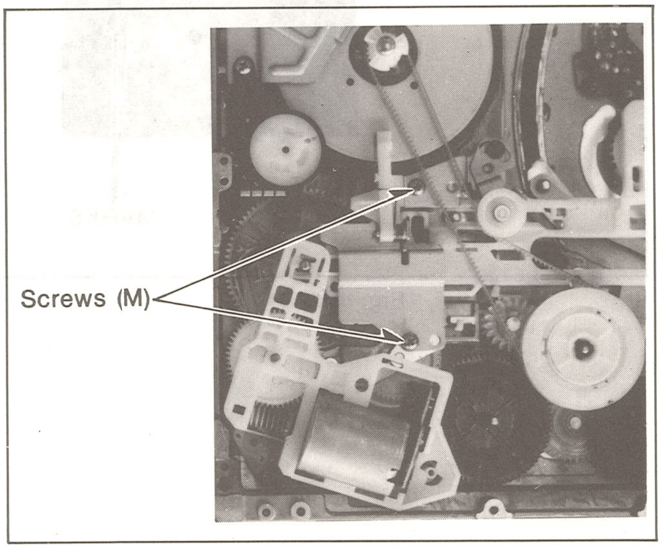


Fig. K12

4–13. ASSEMBLY OF THE PINCH ARM UNIT

1) Install the OPENER PIECE by inserting the boss into the PINCH ARM UNIT. Push down until the lock engages the shaft.

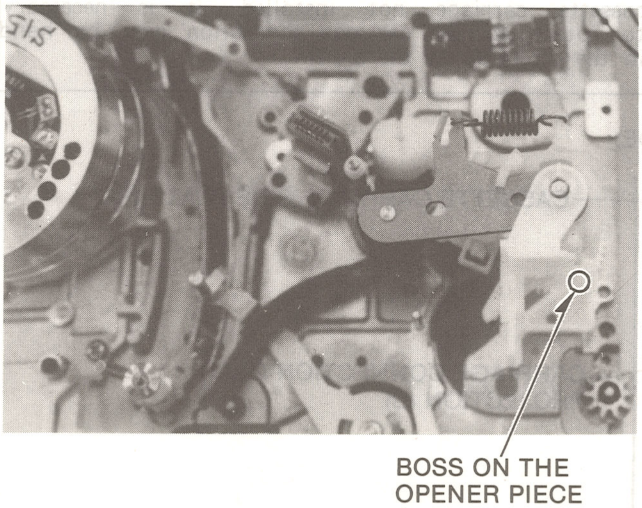


Fig. K13

4–14. CHECKING THE MECHANISM MOVEMENT

1) Check by moving the mechanism by hand then re-check using a battery to power the motor.

2) Rotate the LOADING MOTOR by hand in the loading direction while checking the movement of each gear. If the mechanism operates correctly when moved by hand, connect a battery to the LOADING MOTOR and re-check the movement of each gear as shown in Fig.S1/S2/S3.

3) Connect the battery to check the loading operation and then reverse the battery connection to check the unloading operation.

4) Reverse the battery to move the mechanism to the cassette down position.

4–15. ASSEMBLY OF THE CASSETTE HOLDER

1. A SSEMBLE A CASSETTE HOLDER AS A UNIT COMPLETE UNIT

1) Put the CASSETTE HOLDER into the cassette up condition by moving the WIPER ARM.
2) Turn the LOADING MOTOR by hand in the unloading direction until the CARRIAGE CONNECTION GEAR and the MODE SW is eject position as shown in Fig.K14/K15

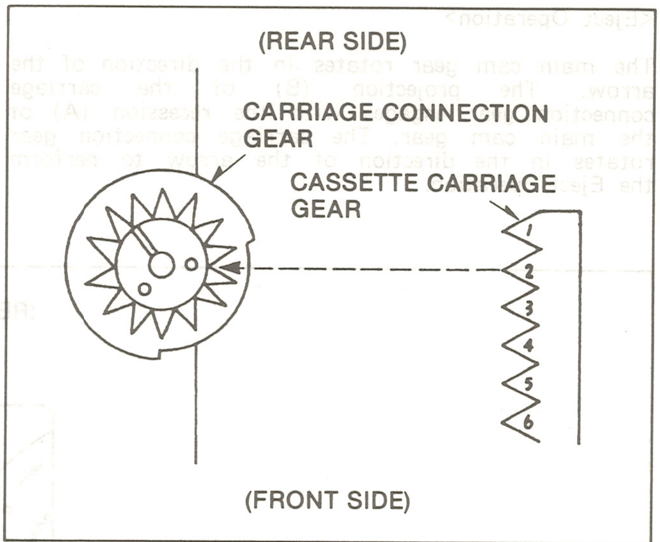


Fig. K14

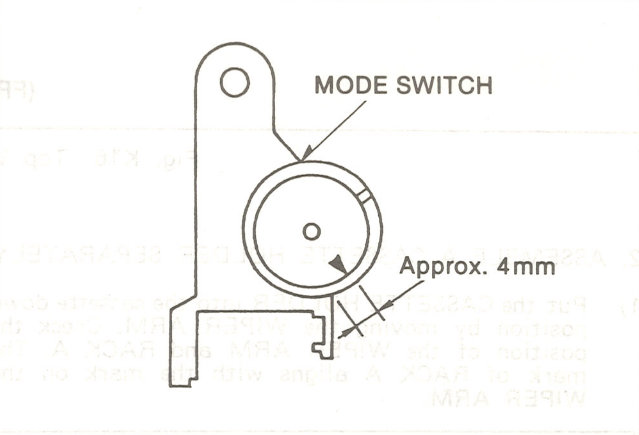


Fig. K15

3) Install the CASSETTE HOLDER UNIT as shown in Fig.K14.
4) Install 4 screws to attach the CASSETTE HOLDER UNIT.

<Eject Operation>

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

<NOTE>
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear will not rotate.
For performing the Eject operation with the cassette carriage not installed, it is necessary to rotate to the carriage connection gear by hand in the direction of the arrow.

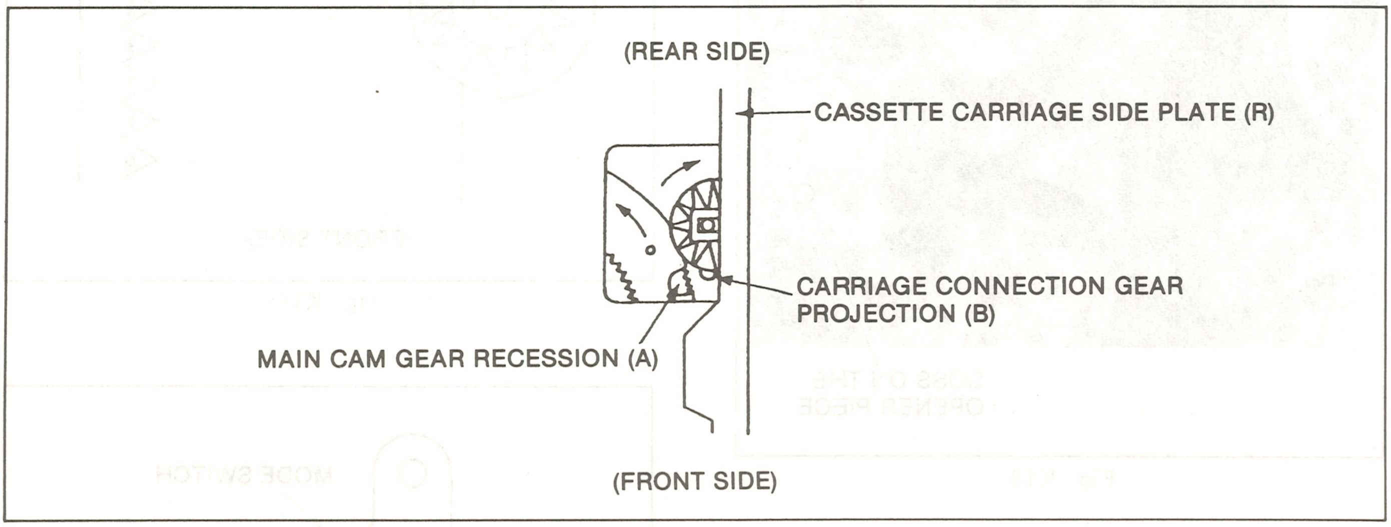

(REAR SIDE)
CASSETTE CARRIAGE SIDE PLATE (R)
CARRIAGE CONNECTION GEAR
PROJECTION (B)
MAIN CAM GEAR RECESSION (A)
(FRONT SIDE)

Fig. K16 Top View of Eject Operation

2. ASSEMBLE A CASSETTE HOLDER SEPARATELY

1) Put the CASSETTE HOLDER into the cassette down position by moving the WIPER ARM. Check the position of the WIPER ARM and RACK A. The mark of RACK A aligns with the mark on the WIPER ARM.

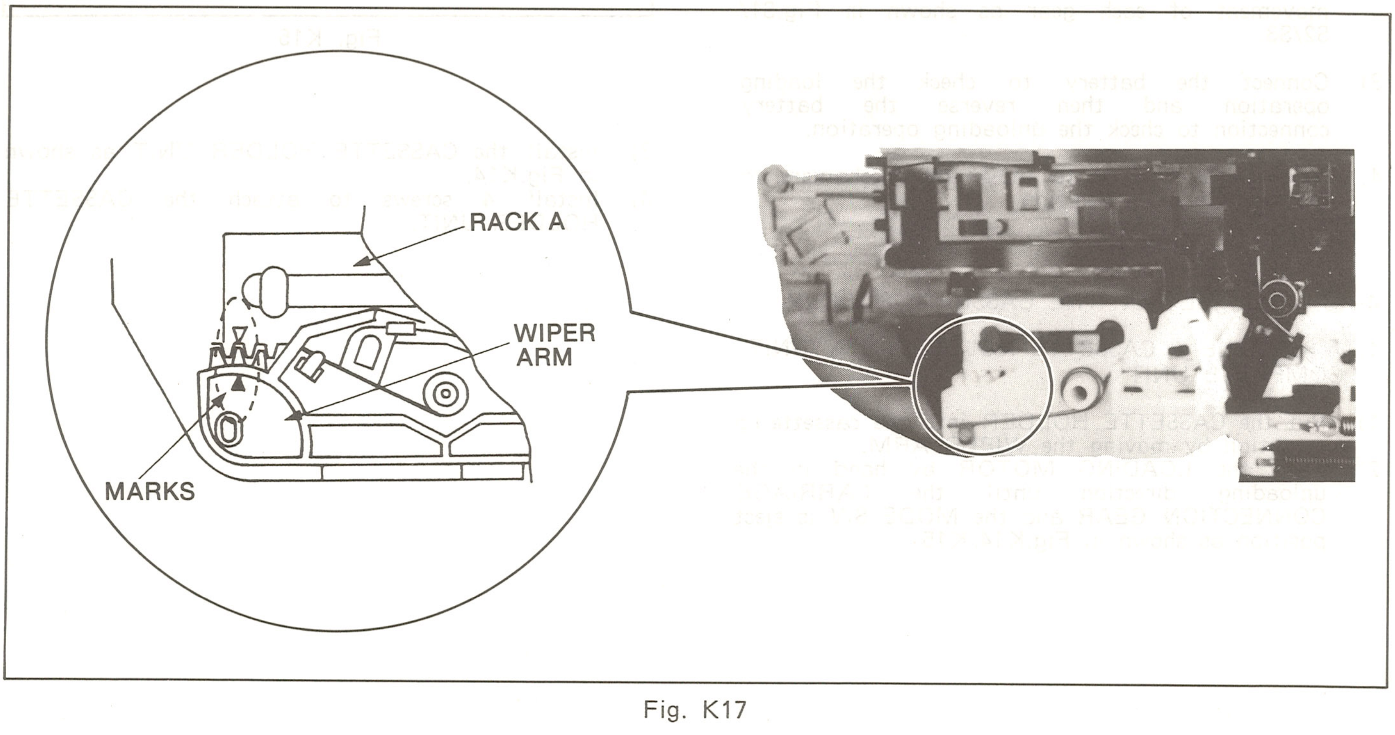

RACK A
WIPER
ARM
MARKS

Fig. K17

2) Install the SIDE PLATE ASSEMBLY so that the first gear of RACK B aligns with the mark on the CARRIAGE CONNECTION GEAR.

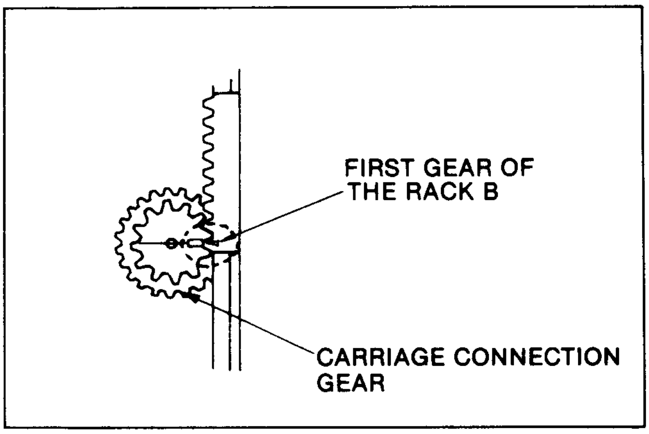


Fig. K18

3) Install 4 screws to attach the SIDE PLATE ASSEMBLY.

4) Turn the LOADING MOTOR by hand to the cassette up position while pushing the WIPER ARM to the cassette up position.

5) Insert the 5 posts on the CASSETTE HOLDER into the Side Plate.

6) Set the TOP PLATE on the Side Plate then push it down until it locks.

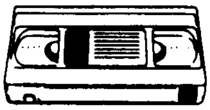
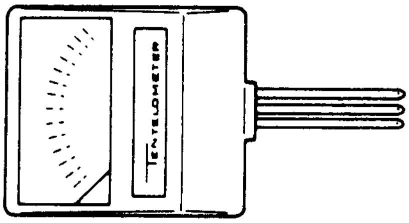
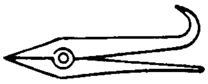
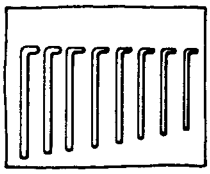
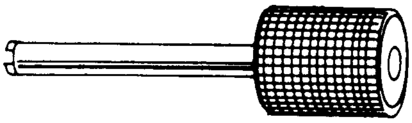
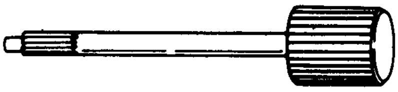
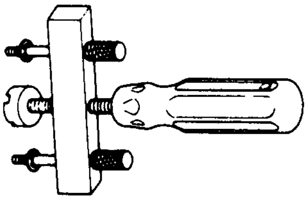
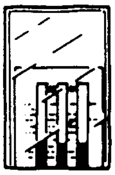
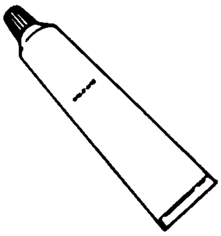
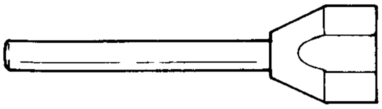
4–16. ASSEMBLY OF THE MECHANISM CHASSIS

1) Install the MECHANISM CONNECTION C.B.A. onto the chassis. Then install the chassis into the frame and connect all the cables and connectors.

2) Clean the DD CYLINDER after reinstallation.

3) Insert a cassette and adjust the tape travel and check all the operation modes.

Servicing Fixtures & Tools

VFJ8125H3F PAL VHS Alignment Tape VFM8080HQFP NTSC VHS Alignment Tape 	VFK0132 Back Tension Meter (Tentelometer, Made in U.S.A.)  	VFK0335 Retaining Ring Remover (3mm/4mm) 
VFK0326 Hex. Wrench Set (0.7, 0.9, 1.2, 1.5, 1.6, 2.0, 2.4, 3.0mm) 	VFK0329 Post Adjustment Screw Driver 	VFK0330 Fine Adjustment Gear Driver 
VFK0341 Upper Cylinder Remover 	VFK27 Hand Cleaning Stick 	MOR265 Morlytone Grease 
VFK0851 CENTRE FIXING TOOL 		

5. PARTS CHANGE

5-1. Parts List

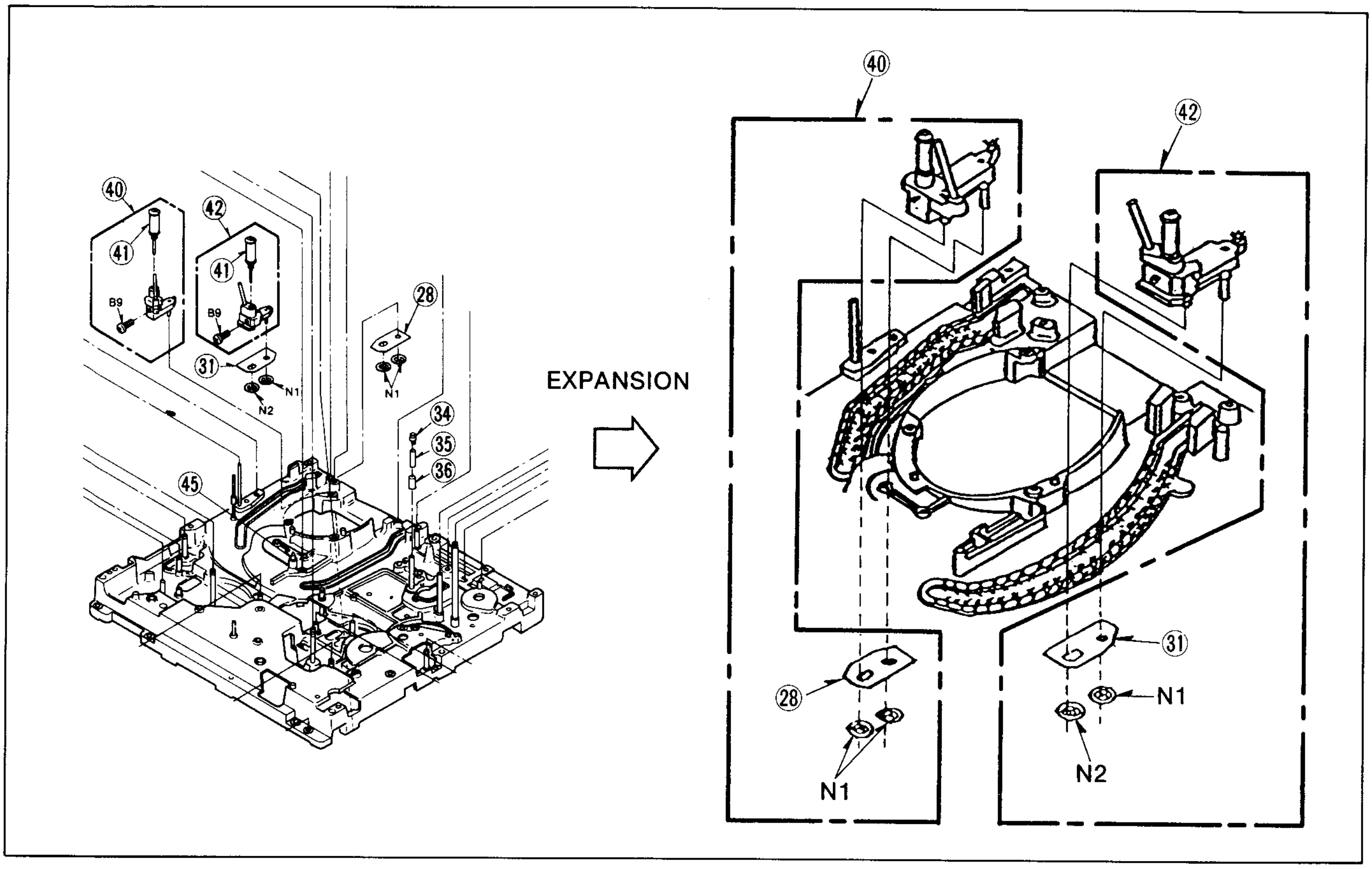
This list shows parts change for SUPPLE 1~3(SUPPLEMENT 1~3). When using or ordering the parts below, refer to this.

Note:(1)Parts indicated by " ▲ " do not have interchangeability.
(2)Parts indicated by " ● " should be used on New Part(SUPPLE1,2 or 3).

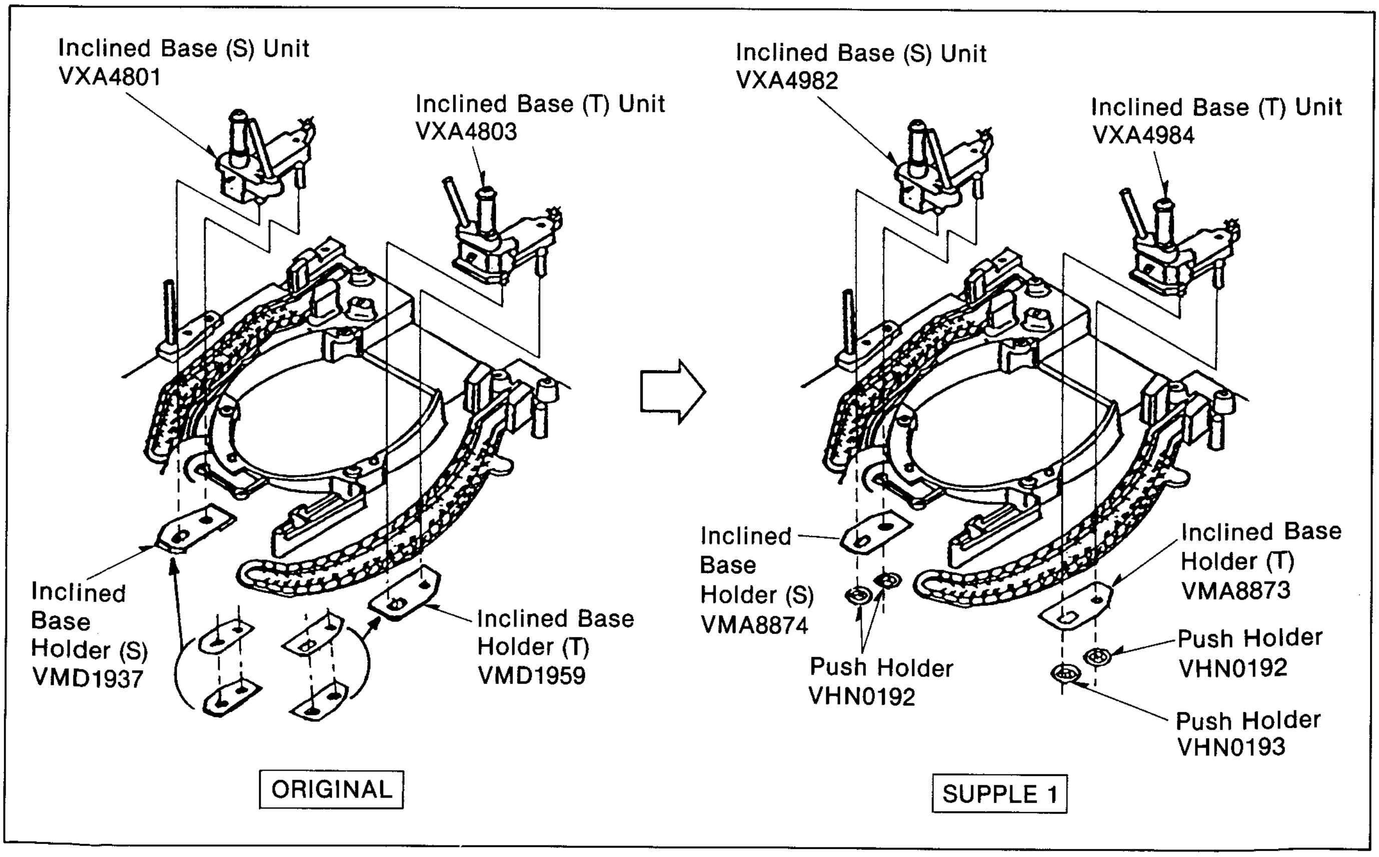
Ref.No.	Part Name	Original	SUPPLE1	SUPPLE2	SUPPLE3	
20(1)	A/C HEAD(1) UNIT	VED0182	VED0205			
28(1) ●	INCLINED BASE HOLDER(S)	VMD1937	VMA8874			
31(1) ●	INCLINED BASE HOLDER(T)	VMD1959	VMA8873			
32(1) ●	OPENER PIECE	VMD1960	VMD2101			
37(1)	TENSION RELEASE ARM	VML2772	-------			
40(1) ●	INCLINED BASE(S) UNIT	VXA4801	VXA4982KIT			
40(1) ●	INCLINED BASE(S) UNIT	VXA4982	VXA4982KIT			
41(1) ●	ROLLER POST	VXP1363A	VXP1415			
42(1) ●	INCLINED BASE(T) UNIT	VXA4803	VXA4984KIT			
42(1) ●	INCLINED BASE(T) UNIT	VXA4984	VXA4984KIT			
43(1)	ROLLER POST(T)	VXP1363	-------			
45(1) ●	CASSETTE POSITION FIXTURE	VMS2558	VMS5383			
N1	PUSH HOLDER	-------	VHN0192			
N2	PUSH HOLDER	-------	VHN0193			

SUPPLE1(SUPPLEMENT SERVICE MANUAL) ··· Order No. VRD9305S015

5-2. Exploded Views of Inclined Base (S),(T) Unit


40
41
B9
42
41
B9
31
N1
N2
28
N1
34
35
36
45
EXPANSION
40
42
28
N1
31
N1
N2

5-3. Inclined Base (S),(T) Unit Changes


Inclined Base (S) Unit
VXA4801
Inclined Base (T) Unit
VXA4803
Inclined Base Holder (S)
VMD1937
Inclined Base Holder (T)
VMD1959
ORIGINAL
Inclined Base (S) Unit
VXA4982
Inclined Base (T) Unit
VXA4984
Inclined Base Holder (S)
VMA8874
Push Holder
VHN0192
Inclined Base Holder (T)
VMA8873
Push Holder
VHN0192
Push Holder
VHN0193
SUPPLE 1

6. TROUBLE SHOOTING

SYMPTOM	CAUSE／＊CHECK POINT
NO SOUND IN SELF RECORD	REPLACE A/C HHEAD ＊IC600(34)(35) ⇨ OK
TAPE STUCK WHEN EJECTED	TAKE UP BRAKE ARM UNIT(VXZ0313) OFF ＊TAKE UP REEL NOT ROTATING
NOISY PICTURE IN PLAYBACK	DD CYLINDER CUT LEAD OF LOWER CYLINDER(VEG0987) ＊RF ENVELOPE DOESN'T APPEAR
CASSETTE BLINDER DOESN'T CLOSE	PHASE ERROR BETWEEN SIDE PLATE & CARRIAGE CONNECTION GEAR(VXA4806 & VDG0871) ＊VISUALLY CHECK
BAR NOISE IN PLAYBACK	DUST IN INCLINED BASE(VXA4801) ＊P.B PRE-RECORDED TAPE ⇨ NG SELF-RECORDED TAPE ⇨ OK
NOISY PICTURE IN SELF-REC/P.B	A/C HEAD IS DIRTY ＊NO CONTROL PULSE
TAPE CHEWED	P5 ARM UNIT BENT, BROKEN P5 STOPPER (VXL2306, VXA2229) ＊VISUALLY CHECK
THE TAPE DOESN'T LOAD	IDLER CONTROL LEVER(VML2725) NOT INSTALLED CORRECTLY
TAPE RUNNING NOISE WHEN FF	IDLER ARM(VXL2229)

SYMPTOM	CAUSE/*CHECK POINT
NOISY PICTURE IN SELF-REC/P.B(LP)	A/C HEAD DIRTY *NO CONTROL PULSE
TAPE EJECTED INSTANTLY AFTER INSERTING	PHASE ERRER BETWEEN SIDE PLATE & CARRIAGE CONNECTION GEAR(VXA4806 & VDG0871) *VISUALLY CHECK
UNIT IS IN CUE MODE WHEN PLAY BUTTON PRESSED	INCLINED BASE(S), VXA4801 NOT COMPLETELY LOCKED *GREASE TO V STOPPER AND INCLINED BASE
CAN NOT INSERT TAPE	BROKEN HOLDER PLATE LEVER(VXA4661)
TAPE DAMAGE	REPLACE PINCH ROLLER(VXA2246)